

QUARTERMASTER HANDBOOK

TM 10-470



Car Company

WAR DEPARTMENT

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TM 10-470

QUARTERMASTER

HANDBOOK

CAR COMPANY

PURPOSE

This Handbook is intended to provide the personnel of the quartermaster car company with a source of condensed information on the organization, training, operation, and administration of the company. There has been no attempt to make this Handbook exhaustive; it must be understood that it only supplements field manuals, other technical manuals, training circulars, and other official publications. Its purpose is to furnish a convenient compilation of the basic information and data necessary for the efficient functioning of the company.



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CHAPTER I

THE COMPANY

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1. MISSION. The mission of the quartermaster car company (T/O 10-87) is to furnish motor transportation and messenger service for the headquarters served.

2. ORGANIZATION. (See figure 1.) **a.** The quartermaster car company is a separate company composed of four platoons and a company headquarters. The company functions under the direction of army headquarters. The latter authority assigns platoons to corps which have need for passenger transportation and special messenger service. The platoon is the smallest operating unit of the company. When attached to a corps headquarters, it receives its rations from and is administered by the unit being served. Personnel records of the company are kept by the personnel sections of corps and army headquarters to which platoons and company headquarters are attached.

b. Normally one platoon of the car company is stationed at army headquarters and the remaining platoons are attached to the headquarters of the various corps. After the company has been disposed in this manner, a special messenger service is established and maintained between corps and army headquarters. In addition, it is common

practice for the car platoons attached to corps to maintain a special messenger service with the divisions which compose the corps. A standing operating procedure which determines who is eligible to receive transportation from the car platoons will be issued by army headquarters. This will govern the use of individual vehicles and is the medium through which vehicles will be assigned. The directive will apply to all platoons of the company.

ORGANIZATION OF THE QUARTERMASTER CAR COMPANY

	1	2	3	4	5	6	7
1	Unit	Technician grade	Company headquarters	4 platoons (each)	Total company	Enlisted cadre	Remarks
2	Captain.....		1		1		
3	First lieutenant.....			1	2		a. Drives truck, 1/4-ton.
4	Second lieutenant.....				2		
5	Total commissioned.....		1	1	5		b. Also relief drivers.
6	First sergeant and truckmaster (585).....		1		1	1	
7	Technical sergeant, including.....						c. Armed with carbine, cal. .30, unless otherwise indicated.
8	Motor (813).....	(1)			(1)	(1)	
9	Staff sergeant, including.....		1		6	6	d. Drives truck, 3/4-ton, command.
10	Mess (824).....	(1)			(1)	(1)	
11	Platoon (651).....			a (1)	(4)	(4)	
12	Supply (821).....	(1)			(1)	(1)	
13	Corporal, including.....			3	13		
14	Clerk, company (405).....		(1)		(1)	(1)	e. Drives truck, 3/4-ton, weapons carrier.
15	Squad leader (653).....			(b3)	(12)		
16	Technician, grade 4.....				8	2	
17	Technician, grade 5.....				28	2	f. Cars, 5-passenger, light sedan, (not to exceed 24 per company), may be substituted when authorized by army or theater of operations commander.
18	Private, first class.....		29	20	31		
19	Private.....				42		
20	Armorer (511).....	5	(1)		(1)		
21	Bugler (803).....		(drl)		(1)		
22	Cook (060).....	4	(2)		(2)	(1)	
23	Cook (060).....	5	(1)		(1)	(1)	
24	Driver, truck, light (345).....	5			(21)		
25	Driver, truck, light (345).....		(1)	((r7)(20))	(60)		r. Armed with rifle, cal. .30, M1903.
26	Mechanic, automobile (014).....	4	(6)		(6)	(1)	
27	Mechanic, automobile (014).....	5	(e5)		(5)	(1)	
28	Basic (521).....		(12)		(12)		Functions: To provide passenger transportation for the headquarters to which attached.
29	Total enlisted.....		34	24	130	13	
30	Aggregate.....		35	25	c135	13	
31	O Carbine, cal. .30.....		34	18	106		Mechanics will be assigned as directed by the company commander.
32	O Launcher, rocket, AT, 2.36-inch.....		1	1	5		
33	O Rifle, cal. .30, M1903.....		1	7	29		For specification serial numbers, shown in parenthesis, see AR 615-26.
34	O Trailer, 1-ton.....		1		1		
35	O Truck, 1/4-ton.....			11	44		
36	O Truck, 3/4-ton, command.....		1	f10	41		
37	O Truck, 3/4-ton, weapons carrier.....		1	1	5		
38	O Truck, 2 1/2-ton, cargo.....		1		1		

*For planning purposes only; consult latest edition of T/O 10-87.

FIGURE 1

3. THE CADRE. a. The cadre constitutes the framework of a new unit. The cadremen fill key positions in the company. Their functions include assistance in the basic military and technical training of the other enlisted men. All of the cadremen should have been thoroughly trained in their special duties prior to assignment to the company, and should be competent to instruct the enlisted men who assist them. From the start, company officers should clearly define the responsibilities delegated to these key noncommissioned officers, and should make every effort to avoid overlapping or duplication of authority. The proper organization and training of the cadre are essential for the rapid and efficient preparation of a new unit for active operation.

b. The cadre for the quartermaster car company consists of the following thirteen men:

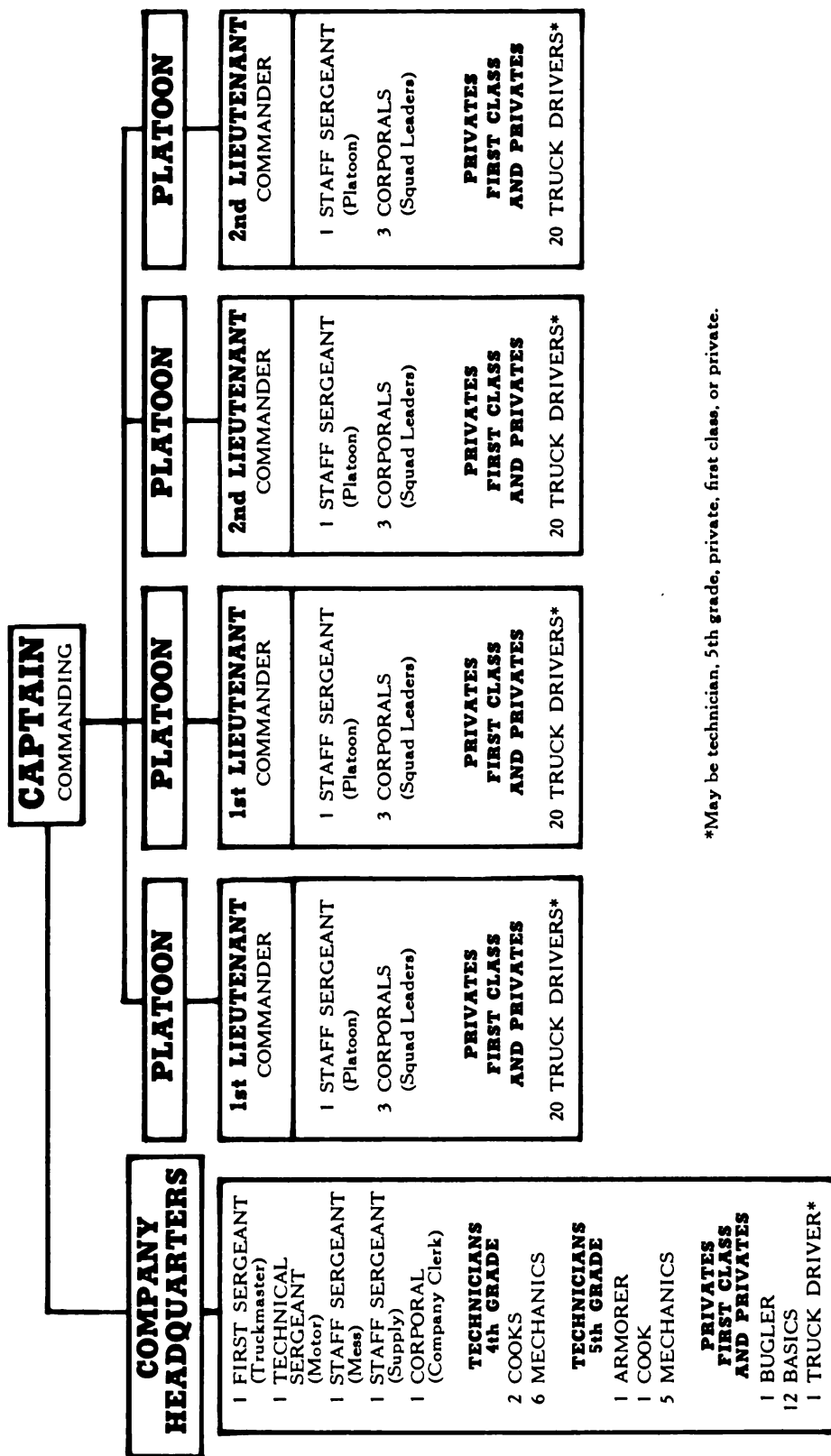
FIRST SERGEANT, TRUCKMASTER	STAFF SERGEANT, MESS	TECHNICAL SERGEANT, MOTOR	FOUR STAFF SERGEANTS, PLATOON	STAFF SERGEANT, SUPPLY
CORPORAL, COMPANY CLERK	TECHNICIAN, GRADE 4, COOK	TECHNICIAN, GRADE 5, COOK	Auto Mechanic, Technician, Grade 4	Auto Mechanic, Technician, Grade 5

c. Company officers must train other men to perform the duties of the cadremen, because their own organization may be required to furnish the cadre, or part of it, for a new company.

4. DUTIES OF KEY PERSONNEL. The organizational chart (figure 2) will simplify the study of the following list of duties of key personnel. See also TM 12-250, Administration.

a. Company commander (captain). The company commander is both the administrator of the company and the director of its technical operations. Inasmuch as the quartermaster car company is a detached unit, its commanding officer is vested by Army Regulations with some of the authority usually exercised by a regimental commander. An example is his right to appoint noncommissioned officers without reference to higher authority. The decisions of the company commander in the zone of the interior will be concerned primarily with administration and training. Personnel records, however, will normally be kept by the headquarters of the unit to which the car company is attached. The company commander alone is responsible for the training of the company, for its efficient administration, and for the maintenance of discipline. His responsibility for these matters cannot be delegated. His commissioned and noncommissioned assistants perform the greater part of the detailed work involved, but the responsibility for results is the company commander's. The commander is personally responsible for all property issued to his company even

QUARTERMASTER CAR COMPANY (T/O 10-87)



*May be technician, 5th grade, private, first class, or private.

FIGURE 2

though one of the commissioned assistants has been named supply officer. His responsibility is moral as well as financial. While all of his duties and responsibilities cannot be listed here, some of them may be summarized as follows:

- ❶ The administrative work of his company: records, files, reports, correspondence, and rosters. (Paragraph 2, AR 245-5.)
- ❷ Supply, including all of the paper work, inventories, issues and inspections involved in making certain that his company is equipped as prescribed in the Table of Organization and Equipment. He is also held responsible for the proper use of property issued to him (83rd and 84th Articles of War). He normally receipts for equipment and supplies issued to him for the use of his company, and he is financially responsible for the condition and quantity of items so issued. (Paragraph 5, AR 245-5 and Paragraph 15, AR 45-80.)
- ❸ He is responsible for the company mess (including all accounts and records), the quantity, appearance, and palatability of the food served, and the cleanliness and efficiency of the kitchen. (Paragraph 6, AR 245-5.)
- ❹ He is responsible for the health, morale, and general welfare of his men. These activities include the custody of company funds and their proper use.
- ❺ Even though his men may have been trained elsewhere, he must try constantly to improve their skills and promote the teamwork of the company.
- ❻ When the company is in the theater of operations, he must make certain that the technical functions of the company are performed in accordance with the instructions issued by higher authority.
- ❼ These duties and responsibilities will be substantially the same in the zone of the interior and in the theater of operations. If the company is well trained before its arrival in the theater of operations, its commander will have relieved himself of practically all detailed work and will have time for more important duties. When all elements of the command are functioning as a unit, the company commander appoints an administrative assistant, who is usually second in command. He also appoints a supply officer and a mess director.

b. Platoon commander. 1. The platoon commander is responsible for the training of his platoon, including both tactical and

technical phases. Few limitations are placed upon his methods in training the platoon, provided he follows the training program schedules and instructions of the company commander. The company commander is the only person in the company who may give instructions to the platoon commander. The platoon commander has the complete authority over his unit which his responsibility for results demands. He should bear in mind that his platoon is not an administrative unit except when it is separated from the company. He is responsible for making certain that members of his platoon carry out the instructions of the company commander. Each platoon commander must make his unit self-contained, and should train it with that purpose always in mind.

2. There are four platoons in this company, each of them commanded by a lieutenant. When the company is together (platoons not attached to field forces), these officers are available for special duties in addition to their normal ones. The platoon commanders are responsible to the company commander for the development and training of the personnel assigned to the several platoons as part of the company team.

c. First sergeant. The first sergeant is the senior noncommissioned officer of the company. He is the noncommissioned administrative assistant to the company commander. His duties are primarily administrative, while those of the lieutenants are primarily as executives in training. The first sergeant is the contact man between the commander and the enlisted men of the company. He forms the company (or any part of it) for drill, fatigue, guard, or other military formations; he checks the platoon sergeants' attendance reports, and informs the company commander of the number of unauthorized absentees. He accompanies his commander on inspections of the barracks, the kitchen and other company buildings and areas. He makes notes of violations of orders, and transmits the company commander's instructions to the enlisted men. He sees that all fatigue, guard, and other details are turned out properly armed and equipped, and that they report on time at the proper place.

1. The first sergeant should know all men in the company, should be generally familiar with their backgrounds, and should know thoroughly their qualifications and abilities. He assists the company commander in maintaining discipline and morale, and brings before him any enlisted man who is to be admonished, reprimanded, or disciplined.

2. In the absence of all company officers, the first sergeant commands the company. In combat, he remains with the company commander, assists him in maintaining contact with the platoon commanders, transmits instructions, controls the dispatch of messengers,

etc. He becomes familiar with the tactical situation and the company commander's plan of action, so that if all officers of the company become casualties, he will be prepared to take command.

3. He gives permission to an enlisted man desiring to speak with the company commander. It is his responsibility to examine the merits of each case and decide whether it should be brought to the attention of the company commander. He must be so impartial that his personal prejudices never deprive any soldier of an opportunity for a hearing.

The company commander usually gives the first sergeant authority to make decisions in minor matters of administration; but men should know that if they are not satisfied with the decisions of the first sergeant they may speak with the company commander. It should be clearly understood by all enlisted personnel that they must speak with the first sergeant before they approach the company commander.

4. In appendix C will be found a company commander's check-list. On this list, each report and record he must keep is discussed. This check-list contains information about the first sergeant's action on each company report or record.

5. He assists the second-in-command and other company officers in the performance of administrative duties. He furnishes the company clerk, company commander and other company officers with the personnel data required to answer inquiries from higher authority. He keeps notes, and in general, supervises all clerical work, maintains schedules and rosters, assists in the issue of clothing and equipment, and performs or supervises all other detailed work of an administrative character. The first sergeant must avoid making decisions which should be made only by the company commander. The platoon commanders make recommendations for increased ratings. The first sergeant makes recommendations for increased ratings only for those in the company headquarters. He makes sure that the other noncommissioned officers of the company understand the orders of the company commander. The first sergeant represents the company commander when he deals with the men, and he represents the men when they want to express themselves through him to the company commander.

6. As truckmaster, the first sergeant acts as the enlisted supervisor of motor transport operation, assisting the company commander in coordinating and controlling these activities. When the company acts as a unit, his duties are:

- (a) Serving as the principal assistant to the company commander.
- (b) Directly supervising the motor vehicle park.
- (c) Assisting, when required, in making inspections.

- (d) Supervising and checking vehicle operation.
- (e) Reporting evidence of neglect, abuse, or carelessness to his superior officer.
- (f) Supervising, through subordinate noncommissioned officers, all personnel assigned to motor transport duties.
- (g) Keeping or supervising the keeping of the records concerning motor vehicle operation, fuel and oil used, and supplies (through the supply sergeant and the company clerk).

When the march unit is a platoon, the platoon leader may require his platoon sergeant to assist him in performing the above duties.

d. Staff sergeant (mess).

1. Good food properly prepared and served in an appetizing manner is the right of every soldier. A mess sergeant should thoroughly understand that he is not doing the men a favor when he serves good meals. If the food is properly prepared and served in an appetizing manner, a major step has been taken in developing an efficient and satisfied company.

2. The following is a partial list of the duties of the mess sergeant:

- (a) The mess sergeant is in immediate charge of the mess. He has full control of the company kitchen and mess hall, but he works under the supervision of the company commander. When the company commander appoints a mess officer, the mess sergeant functions under his general direction. (The mess officer approves menus and requisitions, makes inspections of the kitchen, storeroom, mess hall, garbage disposal methods, and the disposition of trash. He checks rations received to make certain that the company has received everything listed on the requisition. He is present at the serving of at least one meal each day. He inspects the mess accounts and all records pertaining hereto.)
- (b) The mess sergeant is responsible to the company commander for the efficient operation of the company mess.
- (c) Under the present system of field rations, the mess sergeant is not required to prepare menus or requisitions for subsistence supplies; nor need he make extensive purchases from commercial vendors. However, he should make a careful and detailed study of the standard menus prescribed by higher authority. He should hold daily conferences with the cooks on the preparation of the prescribed dishes, in order to insure that the articles of subsistence are properly used and that each dish is tastily and economically prepared.

(d) He checks the daily menus against both items and quantities of subsistence stores issued to the company; he prepares for the guidance of the cooks each day the quantity breakdown of the various articles which go into the meal; and he issues the correct quantities of each item. He keeps duplicate keys to the storeroom, and makes proper entry in the daily stock record of all items issued. Case goods and packages should be left unopened until they are ready for use, in order that they may be returned to the supply officer, if need be, and credit received.

(e) He is responsible for the proper distribution of tasks and work load among the mess personnel. He prepares a daily work schedule for the approval of the mess officer, and sees that the schedule is carried out. He checks and inspects all incoming stores, prepares for the mess officer a list of articles needed in addition to the items issued, and makes frequent inspections of all stores in the storerooms.

(f) He is responsible for the cleanliness and good order of the kitchen, mess hall, and storerooms, and for the personal appearance of mess personnel. He is responsible for the prompt and orderly serving of meals, and should take all necessary steps to insure that every man gets an adequate quantity of all articles on the menu. He should be present throughout the serving of all meals. He should taste all foods served to the men, in order to determine whether they are well cooked and tasty.

(g) He should make a detailed daily inspection of the kitchen, dining room, storerooms, and area outside the mess hall. He should also make frequent spot inspection of utensils, and of the method used in washing utensils and dishes. Every precaution should be taken to insure that all utensils and dishes are thoroughly scrubbed and sterilized after each use, and that no particles of food or soap or residue of soapy water is left on utensils and dishes. Soapy residue may cause serious stomach disorders, and food particles left on dishes may spread disease among the troops.

(h) He must make sure that each man in the mess maintains a high standard of personal cleanliness, and that he undergoes the required periodical medical inspection. Cleanliness of mess personnel cannot be too strongly stressed. Men should be required to keep their fingernails short and scrupulously clean at all times. Hair must always be short, and men should be required to wash their hands thoroughly with soap and hot water after each visit to the latrine. Under no circumstances should men with head colds or respiratory diseases be allowed to work

in the kitchen. The same prohibition applies to men with open sores on any part of their bodies. When possible, all mess personnel should wear clean white clothing while at work, and cooks should wear white caps.

(i) The mess sergeant should make sure that garbage and waste matter from the kitchen and mess hall are properly disposed of. When in garrison there should be three G. I. cans on a rack outside the kitchen, one for each of the following classes of waste matter: food, paper, other material that can be burned, and tin cans and other metals (which should be pounded flat before being placed in the can). When a company is in the field, particular attention should be given to the proper disposal of garbage. The usual field method of cleaning mess kits will be followed when the company is in the theater of operations or engaged in field exercises.

(j) He checks in the enlisted men detailed daily as kitchen police and table waiters, sees that they are in proper uniform or provides them with whatever additional uniform is required, and sees that they are released on schedule and reported back to their organizations.

(k) In making his daily inspection of the kitchen, mess hall, and the area used by the mess, he should watch particularly for the following:

1. *Flies.* In permanent kitchens screens must be kept tight; any flies which get in must be killed immediately. Cheesecloth should be used to protect foods from flies and other insects.

2. *Neatness and cleanliness in the storeroom (permanent garrison).* Nothing should be kept on the floor. All storage should be on dunnage (slatted platforms) or shelves.

3. *Corners.* Dirt should not be allowed to accumulate around legs of tables and cabinets. Handles or knives and other implements should be free of grease and dirt. Pots and pans should be tested for grease by running a finger around the inside.

4. Potatoes, apples, citrus fruits, and vegetables should be examined to see that there is no decay or spoilage. Canned goods should be inspected for bulges (which could indicate accumulation of gases) and other evidence of spoilage.

(l) He should require every member of the permanent mess personnel to study TM 10-405, The Army Cook.

(m) He should check the ration strength report each day with the first sergeant to be sure that the figures submitted agree with the actual

number of men eating in the mess. There should also be a frequent check of the number of men actually eating in the mess.

(n) Frequent scrutiny should be made of the men at meals to detect dirty hands and fingernails.

(o) The mess sergeant is responsible for the maintenance of discipline during the meal. He will make sure that each man receives the portion of food to which he is entitled, and that he has an additional serving if he desires it. He will prevent boisterous behavior, profane language, and crowding in the mess hall, and bad manners at the tables. He will report offenders to the commanding officer for disciplinary action. He will be sure that only those entitled to eat in the company mess are admitted, and that men from other organizations are excluded.

(p) He is responsible for the care, wear, and safeguarding of the supplies on hand.

(q) He frequently inventories tableware, kitchen utensils, and other items in daily use, reporting to the mess officer or the company commander missing or damaged articles, together with the circumstances.

(r) He is responsible for the cleanliness of the mess hall and kitchen.

(s) He supervises the men detailed as kitchen police, who are under his sole jurisdiction.

(t) Any equipment which is not currently used should be delivered to the supply sergeant.

(u) It is his responsibility that meat grinders and other equipment used in the preparation of food for cooking be cleaned at least once daily.

(v) He is responsible for the economical use of lights and fuel in the mess hall and kitchen. He is responsible for the care and wear of Army ranges in accordance with standard instructions.

e. Technical sergeant (motor).

1. The motor sergeant is the chief mechanic in this organization. He should be selected for his technical knowledge and mechanical ability. He should have field experience in the various methods used to enable vehicles to complete their missions when they are stalled or when the going is bad. The duties of the motor sergeant include:

(a) Supervising the repair work done on each vehicle.

(b) Making provisions to assure proper maintenance procedure. Par-

ticular attention should be paid to excessively heated parts (gears, wheel bearings, brakes, etc.)

(c) Establishing, in the presence of the company commander or any commissioned assistant, the maintenance setup in the field, and notifying all concerned of its location.

(d) Supervising the evacuation of stalled or disabled vehicles.

(e) Diagnosing mechanical failures, and when necessary, giving mechanics instruction as to proper corrective action.

(f) Allotting work to mechanics, and inspecting it during performance and after completion.

(g) Checking mechanics' adjustments and repairs.

(h) Seeing that maintenance work is done on schedule.

(i) Making prescribed records and reports on scheduled preventive maintenance, and on servicing and repair work satisfactorily completed.

2. When single platoons of the car company are attached to divisions and other combat forces, the bulk of the duties of the technical sergeant, motor, will be assumed by the staff sergeant who has been designated as assistant truckmaster.

f. Staff sergeant (supply).

1. The supply sergeant is the enlisted assistant to the company supply officer. (The company commander will normally designate one of the first lieutenants as company supply officer.)

2. The duties of the supply sergeant, under the direction of the supply officer, include:

(a) Supervising all labor details in drawing and handling supplies.

(b) Issuing supplies to personnel of the company.

(c) Keeping the supply room in the manner and condition required by regulations, and in accordance with the policies of the company commander and the supply officer.

(d) Preparing requisitions for supplies and equipment.

(e) Maintaining records of organizational and individual property issued to the men.

(f) Preparing the required reports and statements. (See appendix C.)

- (g) Supervising the marking of individual and company clothing and equipment.
- (h) Assisting the company commander or the supply officer in making periodic inventories of Government property.
- (i) Assisting in the issue of clothing and equipment to the men, making appropriate entries on individual clothing and equipment records, and checking the fit of clothing and shoes.
- (j) Assuming responsibility for the safeguarding of all property in his care, and for taking the necessary measures to prevent loss or damage by theft, fire, weather, moths, mildew, rust, vermin, rodents, and other causes.
- (k) Assuming responsibility for keeping all company fire extinguishers in good condition. He should inspect them frequently and make certain that they are ready to use.
- (l) Keeping a record of lockers, keys, and lock combinations used by the company.
- (m) Handling company laundry and all records pertaining to it.
- (n) Being prepared at all times to notify the company commander or the supply officer of any expendable or nonexpendable items required for the use of the company.
- (o) Having available at all times up-to-date lists of all property in the supply room. These lists are posted for inspection and ready reference.
- (p) Making certain that all equipment and supplies are in such condition that they can be used in the field without delay.
- (q) Keeping himself posted on any changes in basic allowances pertaining to the company.
- (r) Keeping a complete and up-to-date file of requisitions, memorandum receipts, and other documents pertaining to supply. This file should be in such form that the company commander or supply officer can obtain information in a very short time.
- (s) Keeping all property in his care serviceable and clean. To this end he should make the general overhauling and inspection of property a routine matter, particularly after it has been used in the field or in field exercises.
- (t) Paying particular attention to the care and repair of carbines and rifles in the possession of the personnel of his company. Particular

attention should be given to the salvage of empty shells and other metallic items used with weapons. Cleaning and preserving materials and their proper use are also his responsibility.

(u) Making an immediate report of any shortages to the company commander or the supply officer. Any damaged or unserviceable property should also be reported promptly.

(v) Initiating action in case property is lost, damaged, or destroyed through the carelessness of any members of the company.

(w) Drawing and receiving Government property for the use of the company. (The supply officer personally signs for property). Although he makes individual issues of clothing, they are witnessed and receipted for by an officer. If property is issued for temporary use, he is responsible for following up and making certain that it is returned within a reasonable time. If it is damaged upon return, the facts are reported to the company commander or the supply officer.

(x) Taking custody of the property (either public or private) of men absent on furlough or temporary duty, in accordance with the policies of the company commander.

g. Staff sergeant (platoon). This noncommissioned officer is the assistant to the platoon commander. He requires all men to comply with the platoon commander's orders. He sees to it that all other noncommissioned officers of the platoon exact from their subordinates obedience to lawful orders, that they treat their subordinates with fairness and impartiality, and that they require obedience to regulations and standards of military courtesy and bearing. When the platoon commander is absent or disabled, the platoon sergeant assumes command of the platoon with the full responsibility and authority of the platoon commander.

h. Corporal (company clerk). This noncommissioned officer is stationed in company headquarters. In TM 12-250 will be found a résumé of the duties of the clerk of a company which is a part of a regiment. The duties of the company clerk of the quartermaster car company are similar. This noncommissioned officer is detailed to the personnel section of army headquarters. In order that the duties of the company may be carried out efficiently and with dispatch, constant liaison must be maintained between personnel sections of army and corps headquarters. The company clerk will assist the first sergeant in all company clerical work and will perform other clerical duties required of him.

CHAPTER II

TRAINING

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5. OBJECTIVE. The objective of all training of the quartermaster car company is to develop in the men the necessary understanding, skills, and teamwork—both technical and military—to enable the company to carry out its mission.

a. Technical requirements. Training must be provided in the three technical phases of the company's operations:

- 1** *Motor vehicle operation.* Every member of the unit should be trained as a qualified vehicle operator. Chauffeurs must become proficient in advanced and difficult driving techniques so that they will be capable of driving their vehicles over all types of terrain, in all kinds of weather, and under the most adverse circumstances.
- 2** *Maintenance.* Drivers must be qualified in first echelon maintenance procedure. Mechanics must be skilled in helping drivers keep their vehicles in good mechanical condition and in readiness to operate at a moment's notice. The motor sergeant, platoon sergeants, and mechanics must be capable of carrying on second echelon maintenance, and all personnel of the company must understand the procedures.
- 3** *Dispatching.* Truckmasters and other personnel must be capable of organizing and operating dispatching points. Full understanding of the importance of the company's mission and a knowledge of the required records are essential.

TRAINING PROGRAM

Subject	Text Reference	Total Hours	Hours Per Week																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Basic military subjects.....	FM 10-5; T/O 10-87.....	362	36	44	40	40	40	39	8	8	8	8	8	8	8	8	8	17	25
Functional organization of unit—duties of personnel; functions of section; responsibilities of individuals; missions.....		21	.....	4	4	4	4	5	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vehicle nomenclature, makes and models.....	TM 10-510; TM 21-300; FS 10-43; AR 850-15.....	4	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Engine nomenclature and functions.....	TM 10-510; TM 10-570; TF 9-171; TF 10-158; TF 10-166; FS 10-37; FS 10-42.....	8	.....	.....	.....	.....	.....	.....	4	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chassis nomenclature.....	TM 10-560; TM 10-585; TM 21-300; FS 10-34; FS 10-36.....	8	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Drivers' instructions—preliminary stages (mechanics of driving), hand signals.....	FM 10-5; FM 25-10; TF 11-551 to 11-553 incl.; TM 21-300; TM 10-460.....	24	.....	.....	.....	.....	.....	.....	12	12	.....	.....	.....	.....	.....	.....	.....	.....	.....
Use and care of equipment.....	TM 10-590; TM 21-300; FM 25-10; FS 10-40.....	4	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maintenance and care of pneumatic tires and rubber treads.....	TM 21-300; TM 21-200; FM 25-10; TF 9-976 to TF 976 incl.....	12	.....	.....	.....	.....	.....	.....	4	8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Principles and practice of convoy operations, by column, serial, and march units; practical application.....	FM 10-5; FM 25-10; TM 10-460; TM 21-300; TF 11-551.....	56	.....	.....	.....	.....	.....	.....	4	24	18	10	.....	.....	.....	.....	.....	.....	.....
Vehicle lubrication—theory and application—uses of equipment available.....	TM 9-2810; TM 10-540; FS 10-59; FM 25-10; TF 11-551.....	16	.....	.....	.....	.....	.....	.....	4	.....	4	.....	4	.....	4	.....	4	.....	.....
Scouting and patrol mounted.....	Par. 114; FM 2-15; illustrations in FM 17-20.....	8	.....	.....	.....	.....	.....	.....	4	4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trouble shooting—common failures; cooling systems; lubrication system; ignition system; fuel system; power transmission system; steering system; brake system.....	TM 10-510; TM 10-540; TM 10-565; TM 10-570; TM 10-580; TM 10-585; TM 21-300; TF 10-319; TF 10-291; TF 10-299; TF 10-300; TF 10-301; TF 10-376; TF 10-377; FS 10-36.....	12	.....	.....	.....	.....	.....	.....	4	.....	4	.....	8	.....	.....	.....	.....	.....	.....
Map reading, advanced orientation course—	FM 21-5; FM 21-25; FM 21-26; FM 21-30; TF 5-12; TF 11-556; TF 6-103; WDTC #76, 1943.....	24	.....	.....	.....	.....	.....	.....	4	4	4	4	4	4	4	4	4	4	.....
aerial photographs; reading and sketching road maps; selecting camp sites and rendezvous; routes and routing.....																			
Forms and records.....	TM 10-470; TM 21-300; FM 25-10; TF 11-559; AR 850-15.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....

Field expedients—recovery of disabled vehicles; use of wrecking equipment and improvised expedients; winch operations.....	FM 25-10; TM 10-460; TM 21-300; TF 11-555.....	18	.....	4	6	8	.....
Night driving—blackout driving.....	FM 10-10; FM 25-10; TM 10-460; TM 21-300; TF 11-557.....	24	.....	4	4	8	8
Difficult driving—cross country.....	FM 21-300; FM 30-25; FM 31-15; FM 31-20; TF 6-104; TF 11-554; TM 10-460; WDTC #2, 1943.....	16	.....	4	8	4	.....
Individual operations—arrival at designated objective by use of terrain and/or highway maps; by day and by night; practical application.....	FM 25-10.....	48	.....	8	20	20	.....
TECHNICAL OPERATIONS OF UNIT UNDER FIELD CONDITIONS.							
Actual implementation of this phase will be left to the local commander. However, full use will be made of simulated battle conditions, such as loss of personnel, equipment, supplies and communications; air, chemical, and ground attack and night movement of operations. During this phase of training, proficiency in the following should be attained:							
Discipline: local security including outposts, guards, and air and gas sentries; warning system and defense plan against air, gas, mechanized, paratroop, and ground attacks; reorganization of unit after attack; construction of hasty field fortifications; sanitation and first aid; loading and movement of vehicles, equipment, and personnel; map reading and its application.....							
All specialists called for in T/O 10-87, such as truck drivers (345), automobile mechanics (014) will normally be furnished from specialists schools of the Quartermaster Corps; but when necessary, training of these men can be accomplished during the 7th through the 10th week by program applicable to their specialty.							
PROCESSING.....	.....	16	8	.....	.....	8	.....
REVIEWS AND RETRAINING.....	.....	56	4	4	4	4	4
TOTAL HOURS.....	.....	816	48	48	48	48	48
All previous texts.							
.....	.....	77	.....	.....	31	31	15

FIGURE 3



CHAUFFEURS OF THE QUARTERMASTER CAR COMPANY SPEND MANY OF THEIR WORKING HOURS WITHOUT DIRECT SUPERVISION BY COMPANY COMMISSIONED OR NONCOMMISSIONED OFFICERS. CHAUFFEURS OPERATE BY THEMSELVES. THEY MUST BE HIGHLY TRAINED, COMPETENT AND SELF-RELIANT INDIVIDUALS.

FIGURE 4

b. Military requirements. The company must be competent to provide for its security on the march and in bivouac. For this purpose it must be trained in the use of patrols, advance, flank, and rear guards, and outposts. The company and its platoons must be able to act alone in defense against attack by enemy airplanes, airborne and paratroop units, and mechanized ground troops. Every man in the company must understand the principles of active and passive defense, the use of weapons, the demolition of supplies and equipment, and the application of camouflage and cover. (See chapter IV.)

c. In a theater of operations, both officers and men will be confronted with unexpected situations, and will have to surmount many obstacles. For this reason, training should be so conducted that self-reliance and individual initiative are developed to the highest possible degree.

6. TRAINING PROGRAMS. a. A training program for the quartermaster car company is shown in figure 3. The program is designed to give the company training in basic military subjects, defense and security measures, and the technical operations of the car company. The company commander should prepare a training schedule, based on this program, to be carried out with the assistance of subordinate officers, cadre, and other qualified enlisted men.

b. Additional training in basic military should stress the following:

- 1** Recognition of air and armored units, hostile and friendly.
- 2** Construction of fox holes, slit trenches and other hasty fortifications.
- 3** Physical conditioning.
- 4** Detection of booby traps.
- 5** Use and care of authorized weapons.
- 6** Map reading, including study of foreign maps.
- 7** Camouflage of personnel and equipment, with special emphasis on camouflage discipline.
- 8** First aid.

⑨ Defense against chemical attack.

c. Commissioned officers. Officers should be trained to supervise and train enlisted personnel in working according to prescribed methods. Commissioned officers should have a thorough knowledge of the following:

- ① The entire quartermaster service in the theater of operations, including specific knowledge of the organization and functions of all quartermaster units.
- ② The technique of small maneuvers.
- ③ Motor movements by night, using only odometer readings and a compass.
- ④ Use of machine guns and antitank weapons.
- ⑤ Interior administration of small units (company and smaller) in order that every officer may be prepared to operate a small unit independently.
- ⑥ Methods of liaison with higher echelons and nearby units.
- ⑦ The appropriate Table of Organization, Table of Allowances, Table of Basic Allowances, and Table of Equipment.

d. Noncommissioned officers. The most important function of a non-commissioned officer is the supervision of his subordinates. In the field his work must often be done without the supervision of a commissioned officer. Therefore, he must be given every opportunity to handle groups of men. He must also be prepared to replace the officers who become casualties. Besides, he must know thoroughly his duties as a noncommissioned officer, and must master all the details of his technical specialty. He should be trained:

- ① To give orders clearly and decisively.
- ② To make rapid decisions where the situation demands them, and to adhere to them thereafter unless circumstances dictate a change.
- ③ To carry out the orders of his superiors with close attention to detail, and to check personally the execution of the orders which have been given to subordinates.
- ④ To assist commissioned officers in training the men.
- ⑤ In those subjects in sub-paragraph **c** above [especially (2), (3), and (4)] which may be applicable to his own duties.

e. Specialists. See figure 3.

f. Enlisted personnel. 1. Every company contains men with highly varied degrees of professional and military skill. Regardless of how expert some individuals may be in performing their military and technical duties, they must undergo additional systematic training to perfect themselves in their specific tasks. The most skillful enlisted personnel should be used in training men who are less expert.

2. Each man must understand thoroughly his own job, and at the same time, should acquaint himself as thoroughly as possible with any jobs allied with his. He should understand completely the relationships between one job and another.

7. METHODS OF TEACHING. a. Whenever possible, teaching methods should incorporate visual aids and actual field demonstrations. Lectures should be used only when other methods (such as demonstration, conference, coach-and-pupil, and group performance) cannot be used more effectively. When lectures are used, they can often be made more effective by combining them with other methods, and by using training aids.

b. Visual aids to learning include training films, film strips, models and sand tables. Students' interest is often stimulated by permitting them to construct models and sand tables demonstrating the principles they have learned.

c. The most effective methods for imparting a skill are usually those which most closely simulate the actual conditions under which the skill is to be employed. However, this rule may be modified by the need for repetition and for the slowing down of certain operations for practice purposes. For example, it is only by actually using weapons and actually practicing camouflage discipline, that the soldier can become thoroughly trained in these basic military subjects. Field problems should be given in which the company is required to operate with reduced personnel, equipment and supplies, and under unexpected difficulties, simulating conditions which might arise in a theater of operations.

d. In simulating combat conditions it is important to create, as far as possible, the sense of urgency and danger and the nervous strain which so largely condition men's conduct in the field. This atmosphere can be reproduced, to a degree, by introducing the noises and surprises of

battle—simulated strafing attacks by low-flying planes, flanking and overhead machine-gun fire, explosions of low-charge land mines, simulated gas attacks, etc.

e. Commissioned officers should use training exercises to demonstrate and *develop* their own abilities as leaders.

f. All officers and noncommissioned officers who will teach or train personnel should be thoroughly familiar with the following:

- 1** FM 21-5, Military Training.
- 2** FM 21-6, List of Publications for Training.
- 3** FM 21-7, List of Training Films, Film Strips and Film Bulletins.
- 4** TM 1-1000, Vocational Teaching.
- 5** TM 21-250, Army Instruction.
- 6** Quartermaster Handbook, "Methods of Teaching."

CHAPTER III

OPERATIONS

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8. MISSION. a. The mission of the quartermaster car company is to provide certain types of transportation for the organization to which it or any of its platoons is attached. The company operates a special messenger service under the direction of the army commander between army headquarters and corps headquarters and, when directed, between corps headquarters and the headquarters of the component divisions of the individual corps. Although the general scheme of operation will be set forth by army headquarters, the corps commander may exercise considerable judgment over the use of vehicles of the car platoon which is attached to his unit. Car companies will be judged upon their ability to render safe, courteous, and efficient service.

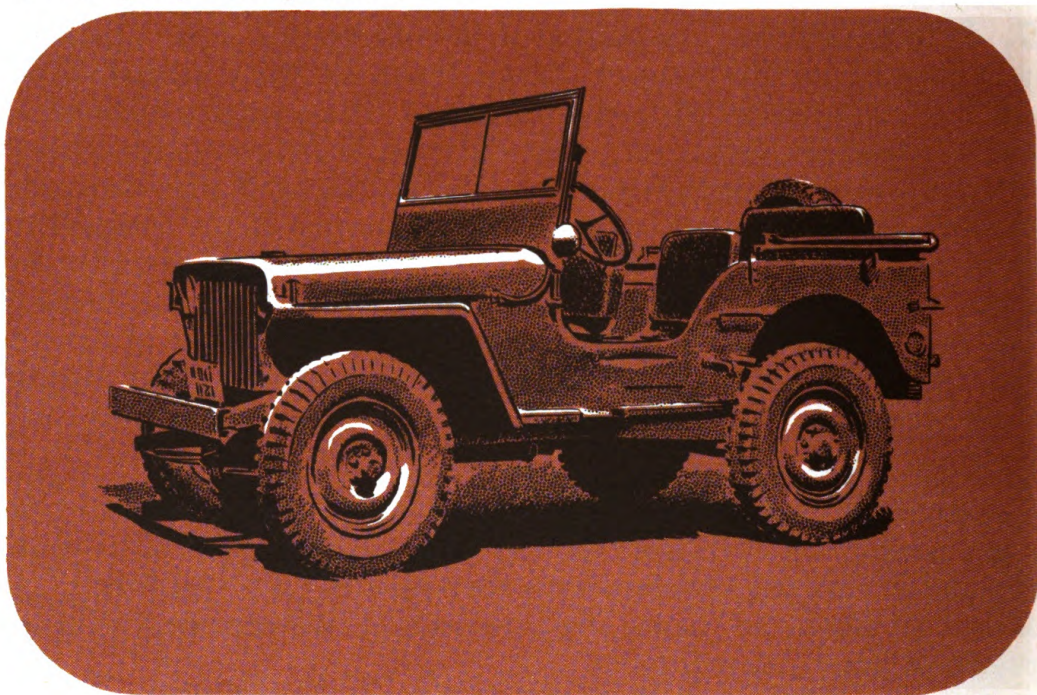
b. A car platoon operating for and with a corps must necessarily meet the particular needs of that organization as they are set forth by the corps commander. Therefore, details of its operating procedure may have to be changed to accord with the wishes of higher authority. In such a situation, no change need be made in the company training programs already described.

9. USE OF EQUIPMENT. Because of the varied terrain and road facilities in the theater of operations, several types of motor vehicles are needed by the quartermaster car company. A brief account of the type and purpose of each vehicle used follows:

a. Truck, 1/4-ton. This vehicle is the most maneuverable unit in the quartermaster car company. Through the use of this vehicle messenger service is established and maintained. It operates to particular advantage in moderately rough terrain and insures prompt delivery of passengers or messages when operated by an experienced driver.

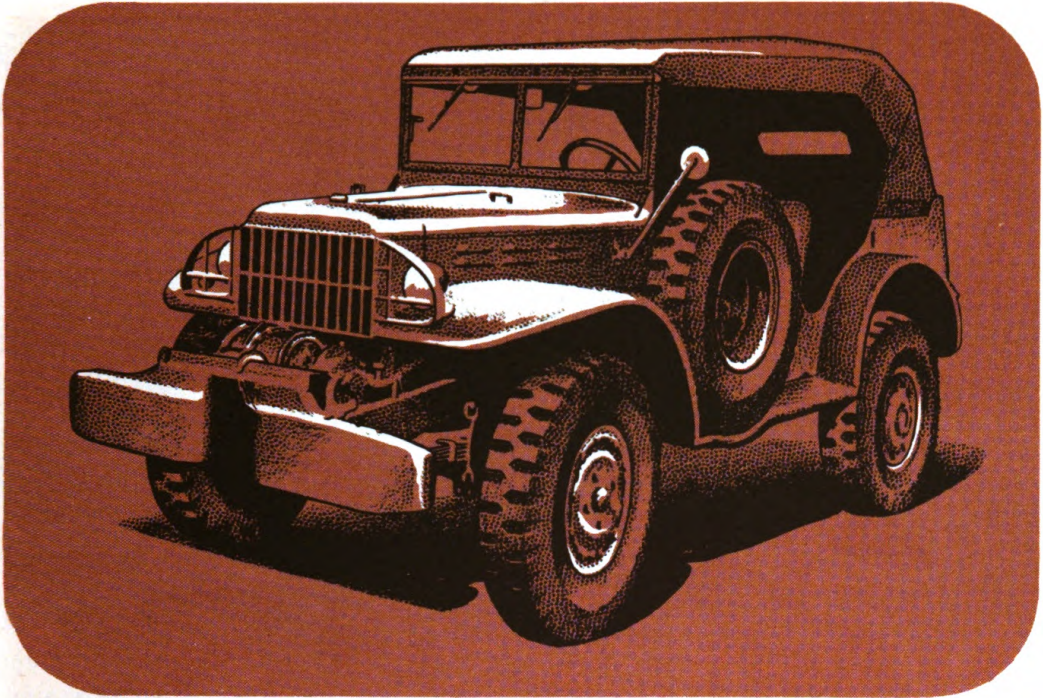
b. Truck, 3/4-ton, command. The command car is used to best advantage in transporting groups of five (including driver) officers and/or men where a truck, 1/4-ton, is inadequate, and where a car, 5-passenger, light, would be unsuitable. The command car is sufficiently sturdy to negotiate terrain commonly found in combat areas and affords considerable comfort.

c. Truck, 3/4-ton, weapons carrier. The weapons carrier issued to each platoon transports platoon organization and kitchen equipment. It may also serve any other need which the platoon commander designates. One of these vehicles performs a similar function for company headquarters.



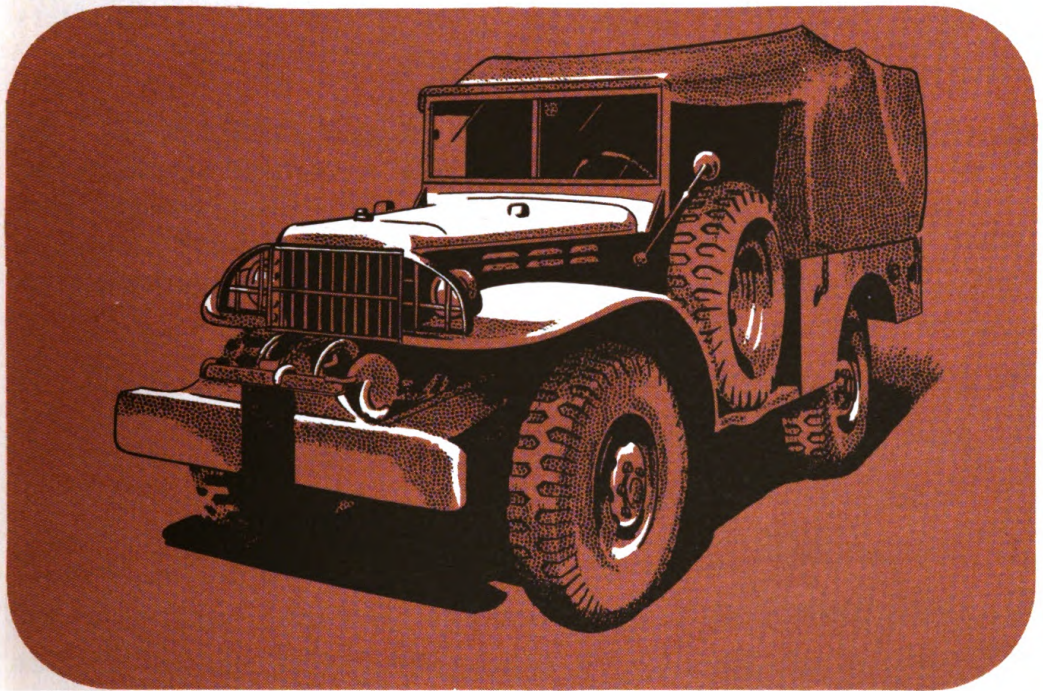
TRUCK, 1/4 TON, 4 x 4 (WILLEYS)

FIGURE 5



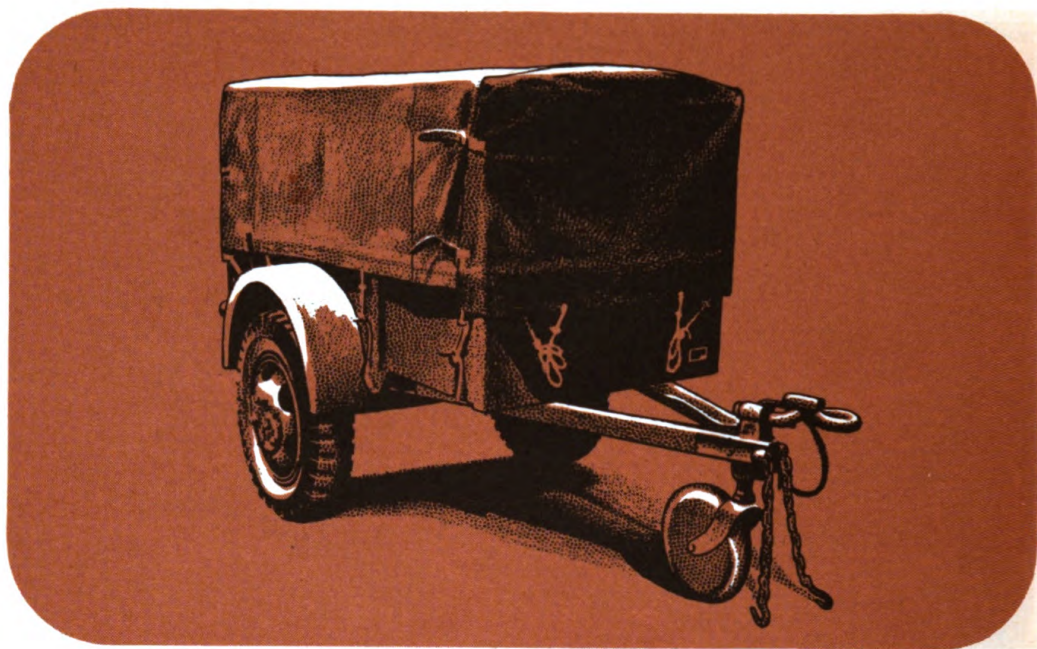
TRUCK, $\frac{3}{4}$ TON, COMMAND (DODGE)

FIGURE 6



TRUCK, $\frac{3}{4}$ TON, 4 x 4, WEAPONS CARRIER (DODGE)

FIGURE 7



TRAILER, 1 TON, CARGO

FIGURE 8

d. Truck, 2½-ton, cargo, and trailer, 1-ton, 2-wheel, cargo. One each of these vehicles is issued to the quartermaster car company. They are for the exclusive use of company headquarters and in them is transported organizational and kitchen equipment.

10. ECHELONS OF MOTOR MAINTENANCE. a.

Preventive maintenance is a responsibility of the company commander. It is impossible to overstress its importance in mobile warfare. Preventive maintenance keeps the vehicles rolling. Repairs to motor vehicles will be performed in the lowest echelon of maintenance consistent with:

- ① Availability of suitable tools.
- ② Availability of necessary parts.
- ③ Capabilities of mechanics.
- ④ Time available.
- ⑤ Tactical situation.

b. First echelon maintenance is driver maintenance, and will include as a minimum:

- ① Servicing.

- ② Lubrication.
- ③ Tightening.
- ④ Cleaning.
- ⑤ Care of tools, equipment, tires, and battery.
- ⑥ Emergency repairs.

c. Second echelon maintenance is company repair, and will include:

- ① Scheduled maintenance services (monthly or 1,000 miles, and six-month or 6,000 miles).
- ② Minor unit replacement.
- ③ Lubrication.

Second echelon maintenance will be performed by the company mechanics. Care must be exercised by all personnel to retain, insofar as possible, the distinction between the proper functions and scope of the motor maintenance of operating organizations and those of the supporting services under field conditions.

II. INSPECTIONS. a. Company commanders of motorized units are responsible for seeing that all vehicles are maintained in a proper state of mechanical efficiency. To insure this, a systematic inspection must be made at sufficiently short intervals to discover and correct defects before they result in serious damage.

b. Correct inspection should reveal negligent maintenance, faulty practices, and indications of failure of units and parts. Corrective measures to prevent recurrence of these faults should be established immediately. Negligence in vehicle care calls for disciplinary action.

c. There are two distinct types of inspections: command and technical.

① A command inspection is an assembly of equipment and personnel ordered by commanding officers to determine whether all authorized equipment is in the possession of the organization and in good condition as to appearance and serviceability, and whether the personnel are qualified to perform their duties. Available space, however, will sometimes limit mass command inspections to platoons.

② A technical inspection is a careful check on the exact status of serviceability of motor vehicles and is made by qualified commissioned and enlisted personnel. The use of WD, AGO Form No. 461, Preventive Maintenance Service and Technical Inspection—Work Sheet for Wheeled and Half-Track Vehicles, is optional. However, it is a useful guide.

12. REPAIR. a. When vehicles are operating out of a motor pool, it is not difficult to repair them. A damaged vehicle is removed from the pool, placed in the repair shop, and the pool continues to operate. However, when the vehicle needing repairs is in a moving convoy, the problem arises as to the best procedure to be used in repairing that vehicle. Varying conditions and circumstances may require varying procedures.

b. If the fault is a minor one and the vehicle can proceed under its own power without further damage, it should proceed to the next scheduled halt for repair. On the other hand, if the vehicle cannot be moved under its own power, or if its movement will cause further damage, it should be parked well off the road and remain there until the repair crew of the maintenance section comes by. If the vehicle is in heavy traffic or on a bridge or narrow road, it must be towed to a more favorable location for parking and repair.

c. The road width, weather and traffic conditions, type of repair, and distance from bivouac or permanent base may make roadside repairs inadvisable. In such cases, it will be necessary to tow the vehicle to the bivouac.

13. BREAK-IN OF NEW VEHICLES. a. General.

Before a new vehicle is placed in service it should receive a thorough inspection to determine whether all parts are properly in place, adjusted, and capable of performing their mechanical functions. The engine, chassis, power transmission units, and other assemblies of the vehicle should be thoroughly checked, and if necessary, adjusted and lubricated. The cooling system and storage battery must be inspected for water level, and the tires checked for air pressure. The manufacturer's operation and maintenance manual should be used as a reference for lubrication and for details of the "check up" inspections of the vehicle.

b. Breaking-in. 1. It is desirable that each new vehicle be "broken-in" for at least five hundred miles under close supervision for the purpose of:

(a) Discovering defects in functioning of parts.

(b) Minimizing damage from frictional heat induced by the close fit of new parts.

(c) "Limbering up," because a vehicle is inherently stiff when new.

2. Before a new vehicle is placed in service, it should be checked for completeness of equipment, for brake adjustment, for wheel alignment,

and for other factors affecting safe and economical operation. The engine should contain the "running-in" lubricant recommended by the manufacturer. The crankcase must be drained and refilled (usually after the first 500 miles of operation) in accordance with the vehicle manufacturer's instructions. The ignition timing and carburetor adjustment should not be changed during the "breaking-in" period except when necessary, and then only by technically qualified personnel.

3. Vehicle speed during the "breaking-in" should not exceed that specified by the manufacturer, usually twenty-five to thirty-five miles an hour. Speed should be increased gradually from minimum to maximum during the first fifteen hundred miles. Upon completion of the "breaking-in" period, the vehicle should again be thoroughly inspected and adjusted before it is released for regular operation. A vehicle can be more thoroughly broken-in by driving it during the required running-in period for long and continuous runs of at least 100 miles at a time.

4. Where applicable, the inspection and adjustment routine during "breaking-in" should generally include the following (See TM 9-2810):

(a) Engine 1. Tighten cylinder head bolts (use of a torsion or torque indicating wrench is extremely desirable to obtain uniform pressures).

2. Check and adjust valve clearances.
3. Check spark plug gaps.
4. Clean and adjust distributor breaker points and check timing.
5. Tighten joints of intake and exhaust manifold.
6. Check carburetor and controls.
7. Check and adjust fan belt.
8. Check engine lubrication.

(b) Cooling system. 1. Inspect and tighten hose connections.

2. Check and adjust water pump packings.

(c) Fuel system. Inspect tanks, lines, and pumps for leaks.

(d) Instruments and lights. 1. Check operation of horn and windshield wiper.

2. Check lights and directional signals.
3. Check control buttons and instruments on panel in the cab or the operator's compartment.

- (e) *Front end.* 1. Inspect wheels for correct caster, camber, and toe-in.
 - 2. Tighten spring clips and adjust shackles.
 - 3. Check tie rod and steering arm assembly.
 - 4. Check lubricant in front axle housing (driving axles only) for quantity and for leaks.
- (f) *Rear end.* 1. Tighten spring clips and adjust mounting.
 - 2. Check lubricant in rear axle housing (driving axles only) for quantity and leaks.
- (g) *Transmission and transfer case.* Check lubricant in cases (or housings) for quantity and leaks.
- (h) *Wheels and brakes.* 1. Tighten rim lugs and wheel stud cap nuts.
 - 2. Inspect tires for indications of excessive wear, improper mounting, and incorrect inflation.
 - 3. Check wheel bearings for adjustment and lubrication.
 - 4. Check and adjust brake linkage and linings. In hydraulic brake systems, check for fluid leakage.
- (i) *General.* 1. Check clutch pedal clearance.
 - 2. Fill battery with distilled water, clean and tighten all electrical connections.
 - 3. Check generator.
 - 4. Check starting motor.
 - 5. Tighten all loose bolts.

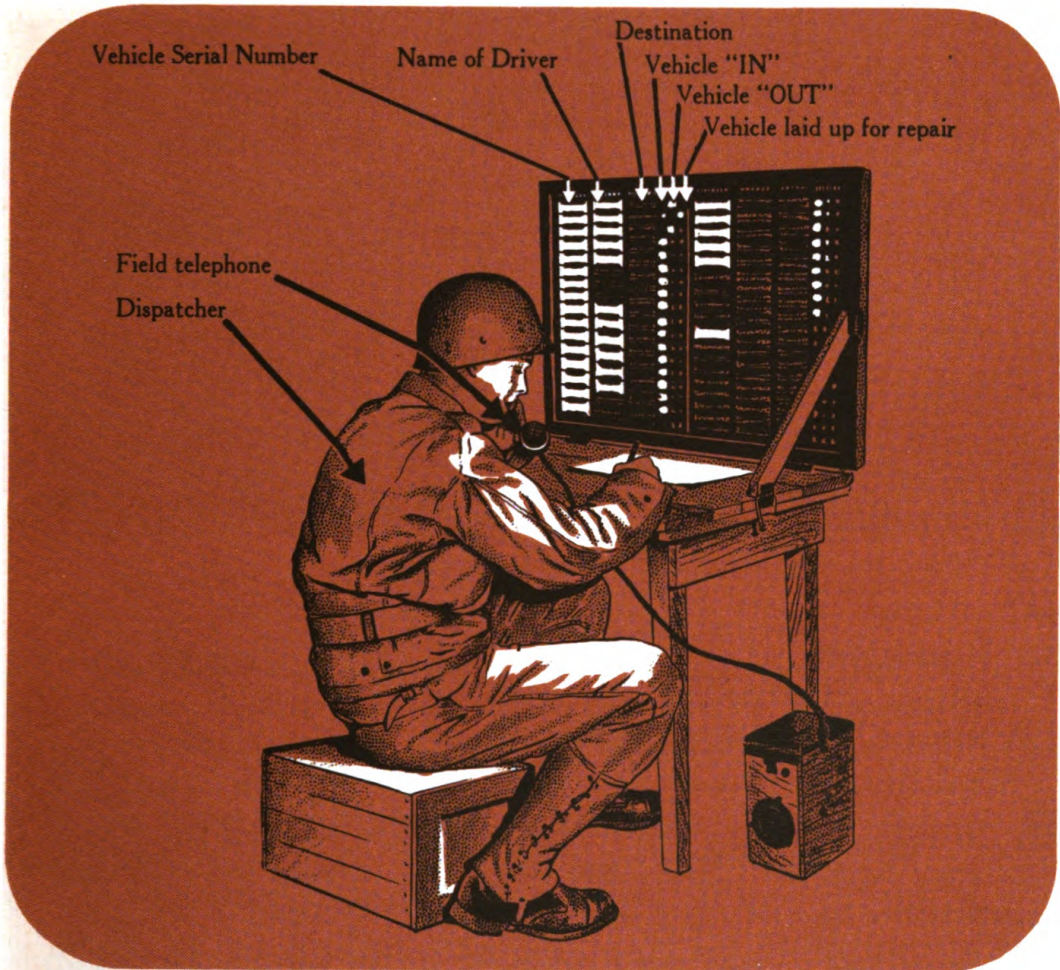
14. DISPATCHING POINT. a. When a car platoon is attached to a corps or similar combat force, it provides certain passenger transportation and messenger service. A dispatching point will be established in an area designated by the transportation officer of the unit being served. This installation (which is merely a miniature motor pool) may be located adjacent to army, corps, or division headquarters.

b. When a dispatching point is to be set up, a field telephone must be installed by the Signal Corps. Telephone communications must be maintained at all times between the dispatching point and headquarters.

c. It is the duty of the platoon sergeant to manage the dispatching point as directed by the commissioned platoon commander. Usually a squad leader or a chauffeur mans the telephone and dispatching point. Records of all vehicles' missions must be kept. Such records should show the destination, the person or persons to be served, or the messenger service to be rendered. If the unit has been properly trained, its

drivers will be expert chauffeurs, skilled in primary maintenance of their vehicles and capable of performing a high quality of service under even the most trying conditions.

15. THE DISPATCHING BOARD. This device facilitates operations and keeps an accurate check on vehicles of quartermaster car companies and platoons. In figure 9 appears a picture of a



A CAR PLATOON DISPATCHING BOARD

THE PEGS USED TO DESIGNATE THE AVAILABILITY OF EACH VEHICLE ARE OF VARIOUS COLORS OR SHAPES, EACH COLOR OR SHAPE DENOTING A TYPE OF VEHICLE. A DEVICE OF THIS NATURE, WHEN PROPERLY KEPT BY THE PLATOON DISPATCHER, IS OF GREAT ASSISTANCE IN MAINTAINING A CHECK ON COMPANY VEHICLES.

FIGURE 9

dispatching board with explanatory notes. Commanders of newly activated units will find a device similar to this of unusual value. The dispatching board should show the serial number and the destination of each vehicle, and the name of the driver to whom it is assigned. Its status also should be indicated—whether it is at the dispatching point, out on assignment, or laid up for repair (“dead-line”). This equipment is not an item of issue, but must originate as a project of the individual organization. Therefore, it may be improvised, improved, or changed to fit the needs of the unit.

16. FORMS USED. a. While in training, and in general, when operating at posts, camps, and stations, the car company must keep a number of forms. They include:

① Daily dispatching record of motor vehicles (OO Form 7361). This form includes:

- (a) Name of dispatcher.
- (b) Station.
- (c) Date.
- (d) Sheet number.
- (e) Driver's name.
- (f) USA registration number.
- (g) Person for whom service is to be provided.
- (h) Address.
- (i) Destination.
- (j) Time of departure and return.
- (k) Notation of accidents.
- (l) Remarks.

② *Monthly Abstract of Issues of Fuel, Forage, Gasoline and Oils and Operating Supplies* (QMC Form 440). This form is self-explanatory and presents no difficulty to those who are called upon to use it.

③ *Driver's Trip Ticket and Performance Record.* (WD Form 48.) This form is kept by the driver of the vehicle, and must state all details about the individual job performed. On the reverse side are listed the preventive maintenance services which are to be performed by the driver.

b. During operations of the car company or its individual platoons, a number of forms similar to the above must be kept. These will be supplied to each unit, but are few enough in number to keep paper work at a minimum. Because of transport difficulties, each platoon commander should be economical in the use of gasoline and lubricants.

CHAPTER IV

SECURITY AND DEFENSE

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Defense against mechanized attack	24
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17. GENERAL. a. The quartermaster car company does not have the weapons for active defense measures except in case of emergency. For protection it depends primarily on passive defense and avoidance of the enemy; but such avoidance must never be permitted to interfere with proper performance of the company's mission. The company should receive adequate training in security and defense *before* it is sent to a theater of operations.

b. Particular attention should be given to training in the use, care and maintenance of weapons.* Emphasis should be given to training in the following weapons:

- ① Rifles (caliber .30, M1903).
- ② Carbines (caliber .30 M1).
- ③ Rocket launchers (AT M1A1).
- ④ Grenade launchers (M1).

*See WD AGO Memo. W700-9-43, dated 11 February 1943.

18. USE OF MAPS. a. All officers and enlisted men of the quartermaster car company should receive thorough training in map reading, in the use of the compass, and in field methods of determining direction with or without the use of instruments. In training for map reading, attention should be given not only to strategic, tactical, and battle maps, but also to the use of overlays, sketches, road maps, relief maps and foreign maps of all kinds.

b. The principal uses of maps are in:

- ① Planning reconnaissance.
- ② Selecting bivouacs.
- ③ Determining routes.
- ④ Formulating defense plans.

19. BIVOUAC SECURITY. a. The actual bivouac location of the company or its subordinate units is determined by the company commander, in accordance with instructions of the administrative command to which the company is assigned, and the general directions given in paragraph 4 of the Field Administrative Order issued by headquarters of the tactical command. (See FM 101-5.)

b. If possible, the site chosen should have the following features:

- ① Solid, well-drained ground of sufficient area.
- ② Overhead cover to prevent aerial observation.
- ③ Accessibility to the road net.

c. The following actions for bivouac security should always be taken:

- ① Maximum dispersion of vehicles, personnel and equipment, without loss of effective control of the unit.
- ② Posting of adequate guards and gas sentries.
- ③ Maintenance of camouflage discipline.
- ④ Maintenance of blackout discipline.
- ⑤ Formulating and *rehearsing* a defense plan in which all personnel of the unit are assigned specific tasks.
- ⑥ Construction of slit trenches, fox holes, and other hasty fortifications.

20. INDIVIDUAL SECURITY. a. Because of the ever-present danger of attack by enemy planes, paratroops, glider troops, mechanized units, and patrols, every man in the company must be prepared to meet sudden and unexpected assaults. For this purpose, each man is equipped with one of the carbines or rifles allotted to the company, and must become proficient in its use.

b. Other means of individual protection include:

- ① *The fox hole.* A pit dug by the individual soldier to protect his body, especially when firing his weapon. Fox holes should be dug with the longer side at right angles to the direction of probable attack.
- ② *The slit trench.* A narrow trench designed particularly for immediate protection from strafing. Two common types are the creeping trench, which is 2 feet wide and 1½ to 3 feet deep, and the standing trench, which is 2 feet wide and 3 to 5 feet deep.

21. MARCH SECURITY. a. March plan. Personnel of the car company should be thoroughly trained in the defense of march columns. Whenever the company or units of the company are to move in columns, a march security defense plan should be carefully developed *before* actual operations. Factors to be considered in the plan include:

- ① Type of march column providing maximum security.
- ② Placement of fire power in the march column for maximum protection.

b. Types of marches. ① *Infiltration.* Vehicles are dispatched irregularly, over a carefully marked route, so as to enter the normal flow of traffic. This type of march provides the greatest degree of passive security; but it is difficult to control, consumes considerable time, and requires careful marking of the route.

② *Open column.* Vehicles march in formation with a flexible spacing of approximately 150 yards. Control is easier, and speed is greater than on infiltration march. Although there is some dispersion of vehicles, there is less passive protection than with infiltration. Those vehicles not provided with machine guns have little protection against aerial attack.

③ *Close column.* Vehicles are dispatched as close together as safety and convenience permit. This march provides a maximum of speed and economy of road space, and a minimum of dispersion. While this type of march offers an excellent target for enemy aircraft, it is the best type for operation under blackout conditions.

c. Halts. During halts, all vehicles should be driven off the road, if necessary, to obtain concealment under natural cover. Exposure of one vehicle endangers the entire column. If the halt is to be of more than a few hours' duration, slit trenches should be dug at least 50 yards from the vehicles.

22. CAMOUFLAGE. a. The principal defense of the car company is concealment from enemy observation, both from air and ground. This concealment is effected by use of natural cover and camouflage. There are three methods of camouflage:

- ① *Hiding.* Completely concealing personnel, supplies and equipment by building overhead and lateral cover.
- ② *Blending.* Making personnel, supplies and equipment as indistinguishable as possible from surrounding terrain features, by breaking up shadows and forms.
- ③ *Deceiving.* Making equipment and installation appear to be something else, or using dummies to mislead the enemy and draw his attention away from the actual installation.

b. The requirements for successful camouflage, in order of importance, are:

① *Proper selection of location.*

- (a) To provide natural concealment or permit easy camouflage.
- (b) To permit the most effective accomplishment of the company's mission.
- (c) To secure ease of access to road net without making new tracks visible to aerial observation.

② *Good camouflage discipline.* Personnel of the company should be trained to leave observable terrain as nearly unchanged in appearance as possible, by keeping to old paths, concealing all unnatural objects (such as clothing and equipment) and debris, covering or scattering spoil from fox holes or slit trenches, sweeping over wheel tracks, renewing withered foliage camouflage, covering windshield and other objects which reflect light, and by taking other precautions.

③ *Proper erection of camouflage material.* (a) Regular and symmetrical shapes and shadows, straight lines, and angular outlines should be broken.

(b) Tracks should be concealed or effaced.



FIGURE 10

CAR PLATOON DISPATCHING POINT

An example of *bad* planning; the vehicles are poorly concealed and too closely parked. They do not face the road, their windshields have neither been removed or camouflaged, and no attempt has been made to cover or conceal tracks. The men are idly exposing themselves to enemy observation, and no sentries have been posted.



FIGURE 11

CAR PLATOON DISPATCHING POINT

An example of *good* planning; the car platoon is well camouflaged. The vehicles face the road to facilitate quick movement and evacuation. They are scattered, windshields have been removed to prevent glare, tire tracks have been covered, and sentries have been posted.

(c) The form and shadows of all equipment and supplies should be concealed.

④ *Proper selection of camouflage material.* (a) Material should match surrounding terrain in color and texture.

(b) Material should be easy to install, maintain, and dismantle.

23. DEFENSE AGAINST AERIAL ATTACK. a.

Concentrated fire from small arms is successful in reducing the effectiveness of strafing and dive bombing.

b. The following should be considered when directing fire against aircraft:

① Rifle fire against aircraft is effective up to 600 yards.

② The length of time in which an attacking aircraft will present a possible target will probably not exceed 5 or 6 seconds. It is necessary, therefore, that all weapons which can be used be brought into play promptly.

③ No lead should be used for planes diving directly at a position or climbing directly away, or for a plane no more than 100 feet away. For all other targets, rifles should take a lead of six target lengths.

24. DEFENSE AGAINST MECHANIZED ATTACK.

a. The weapons organic to the car company have very limited effects on armor. Any type tank may be disabled by rockets; but the effective range of rocket launchers is limited.

b. In defense against an armored attack, positions of weapons and individuals must not be disclosed to the enemy until they can be utilized with some possibility of success. Premature disclosure of the location of rocket launchers will result in the enemy's using his superior fire power at long range to reduce defense installations.

c. When the armored elements are first sighted, rifle fire should be opened at maximum range to force tank personnel into the tanks where their vision is limited to the vision slots and periscopes. Every attempt should be made to destroy the vision slots and periscopes by rifle fire, thereby making the tanks "blind".

d. At close range, sticky grenades and Molotov cocktails should be employed against any part of the tank.

e. If the attack is made by armored personnel carriers such as scout and reconnaissance cars, rifle fire may be maintained at any time when the personnel is exposed within range of the weapons.

25. DEFENSE AGAINST CHEMICAL ATTACK.

a. Protection against chemical warfare is the responsibility of the commanding officer. Each member of the company must be thoroughly trained in the use of his gas mask, the identification of toxic gases, and the use of all protective equipment issued to him. A trained, thoroughly equipped decontamination squad should be a part of each quartermaster car company.

b. Gas sentries should be posted and equipped with the latest equipment for detecting new war gases.

c. A contaminating agent which falls upon a vehicle may accumulate or run into crevices from which it can be removed only with great difficulty. Every vehicle should carry one 1½-quart hand-operated spray apparatus containing noncorrosive decontaminating agent. Since this agent is subject to deterioration, it should be replaced every three months. As practically all surfaces, except glass and unpainted metal, absorb persistent agents quite rapidly, decontamination should be started as soon as practicable after contamination.

26. BOOBY TRAPS AND MINES.

a. Modern combat has seen an increase in the use of booby traps. The reason for the use of booby traps is that pursuit of a foe using them is slowed down considerably by the need for careful inspection of every bit of new territory gained. Troop morale is greatly affected when numerous booby traps are encountered.

b. Detection of booby traps is the responsibility of all individuals. The presence of booby traps should be suspected whenever the following are encountered:

- ① Souvenirs, pictures, food and drink containers, musical instruments and other common articles.
- ② Steps, floors, doors, windows, cupboards, narrow passages, furniture, fireplaces, water traps, closets, supplies, light switches, floor coverings, documents and litter.
- ③ Disturbed ground or small depressions in the ground, especially after a rain.

- ④ Refuse earth, explosive wrappings, sawdust and nose caps for shells.
- ⑤ Footprints leaving material alien to the nature of the ground.
- ⑥ Traces of camouflage or withered vegetation, indicating attempted concealment.
- ⑦ Breaks in the continuity of vegetation, dust, paintwork, or wood-work.
- ⑧ Presence of pegs, nails, electric leads and random pieces of wire.
- ⑨ Any piece of enemy equipment which has not been demolished or partially demolished. The more expensive and technical the equipment, the more reason there is for suspicion. This is particularly true when the enemy's retreat has been slow and orderly.

c. When a booby trap has been detected, or when an object suspected of concealing a booby trap is found, it should be clearly marked and the information immediately given to the officer in charge. Measures to neutralize booby traps should be taken *only* by specially trained personnel.

d. When entering a suspected building, the following precautions should be taken:

- ① Check approaches and examine ground around the building, especially under ground floor windows, for trip wires, etc.
- ② Examine inside of doors from ground floor windows before opening.
- ③ Inspect all obvious means of access to the building.

e. Hasty mine fields. Troops of any arm or service may be required to lay or remove hasty mine fields for local security or as general obstacles. and deliberate mine fields may be laid or removed by such units under adequate supervision.

27. DEMOLITION. a. Destruction of any materiel is a command decision, to be implemented on authority delegated by the division or higher commander.

b. As a general rule, no more demolition should be accomplished than is necessary to make certain that the enemy will find it more economical to seek new equipment than to repair the demolished.

c. Demolition procedure should be:

- ① Simple.
- ② Effective.
- ③ Rapid.
- ④ Standardized.

d. Any method which meets the above requirements can be satis-

factorily employed; but three factors will govern the selection of one method in preference to all others:

- ① The tactical situation.
- ② Time.
- ③ Tools.

e. The following methods of demolition and destruction are suggested:

① *Class I supplies.* The most effective method is to pour gasoline on the supplies and burn them. Explosives may also be used, although part of the supplies are likely to be scattered rather than destroyed. If circumstances prohibit the use of fire or explosives, perishables can be contaminated with gasoline or saturated with water and sprinkled with chloride of lime. If there is time, cans should be punctured individually. Supplies can be thrown into any available large bodies of water; waterproof containers should first be smashed, and the individual items scattered.

② *Miscellaneous supplies and equipment.* Clothing and equipage can be sprinkled with gasoline and burned. If burning is not practicable, individual items, removed from containers, should be slashed or ripped, buried, or contaminated with chloride of lime. They may also be thrown into rivers or lakes in weighted containers. Heavy equipment may be rendered useless by removing vital parts or smashing them with sledge hammers.

③ *Vehicles.* Raise the hood and smash the radiator with an ax. Use a sledge hammer on the carburetor, spark plugs, distributor coil, valve cover and block. Use an ax on the hose connections. Cut all wires, remove the protective cover on the battery, and smash the casing. Smash transmission and transfer cases with a sledge hammer from underneath. Deflate and slash all tires, and break the valve stems. Smash the headlights and all other glass. Smash the instrument panel with a hammer and cut all wires. Slash holes in the gasoline tank with an ax.

④ The use of fire is often inadvisable, since it reveals the location of the unit. In such cases, physical destruction should be as complete as available tools and time allow.

28. REFERENCES. For detailed information on security and defense measures, see text references listed for basic military, map reading, security, decontamination, and demolitions, in the training program for second thirteen weeks (figure 5). Further references may be found in FM 21-6, List of Publications for Training, FM 21-7, List of Training Films, Film Strips, and Film Bulletins, and recent War Department Training Circulars.

CHAPTER V

COMPANY PROPERTY AND SUPPLY

	Paragraph
Initial issue	29
Replacement items	30
Individual clothing and equipment	31
Requisitions	32



29. INITIAL ISSUE. a. Company Property. Company property, as distinguished from individual clothing and equipment, will be issued automatically upon activation of the unit. This issue will include the items of organizational clothing and equipment listed in Table II, Section II, Table of Equipment No. 21 and the items listed in Table of Organization and Equipment No. 10-87. However, delivery on controlled items, such as vehicles, may be delayed since such property is shipped in accordance with priority schedules set up by higher authority. As soon as the initial issue is received, the company commander should carefully check the items received against Table of Equipment 21 and Table of Organization and Equipment 10-87 to determine if the allowances authorized have been received. After the check has been completed, the company property book should be established.

b. Recording property. 1. The Company Property Book. The company property book is maintained in accordance with Cir. No. 170, WD 1943. WD, QMC Form No. 424 (Stock Record Card), altered as necessary and provided with a suitable binder, may be used as pages for the company property book. A section of the book will be allotted

to each class of property (QM, Ord., etc.) and the sheets will be arranged in the same order as the items are listed in T/O and E 10-87. A section of the book will be allotted to the articles listed in Table II, Section II, T/E 21. Each separate item will be entered on a separate page. Serial numbers and component parts of sets should be listed on the reverse side of the sheet. The company property book should reflect at all times the quantities of each item:

(a) Of authorized allowances prescribed for the company by Table of Organization and Equipment 10-87 including quartermaster individual equipment listed thereon.

(b) Actually on hand and in serviceable condition.

(c) Not on hand with a validated requisition or replacement voucher to cover the shortage except shortages in the automatic initial issue. These supporting vouchers (reports of survey, statements of charges, or "turn in" documents), together with shipping tickets, tallies, and inventories relating directly to the property, will be arranged in chronological order, numbered serially, fastened in a manila folder, and filed with the company property book.

(d) On hand in excess of authorized allowances with authority therefor.

2. WD AGO Form No. 32. For each enlisted man a record of individual clothing and equipment issued him is kept on a copy of WD, AGO Form No. 32. On this form are recorded all items of individual clothing and equipment prescribed by T/E 21 (except bag, canvas, field, od, M-1936 and blankets, wool, od, M-1934) and all additional items of individual clothing and equipment expressly in excess of T/E 21. No items shown on WD, AGO Form No. 32 will be shown in the company property book.

3. WD AGO Form No. 33. For each man a WD, AGO Form No. 33 is maintained to record items of station property and company property (and bags, canvas, field, od, M-1936 and blankets, wool, od, M-1934) issued to the man for his own specific use. Items included on this record would include such things as small arms, intrenching tools, compasses, mosquito bars, mechanics' sets, etc.

4. WD AGO Form No. 34. When arctic clothing is issued, this form is used in conjunction with WD, AGO Form No. 32 to record special items of clothing and equipment as required by AR 615-45.

5. WD QMC Form No. 487. Company commanders of separate companies not provided with organization supply officers are required to sign memorandum receipts for station property used by their

companies. In such a case, records of station property used by the company will consist mainly of a file of debit and credit memorandum receipts (WD, QMC Form No. 487) as prescribed in AR 35-6520. Articles of station property issued by him to the individual enlisted men within his own company are recorded on the applicable WD, AGO Form No. 33.

30. REPLACEMENT ITEMS. After the company has been activated, the company commander will obtain replenishment or replacement of supplies and equipment used, lost, destroyed, or damaged in the following manner according to the class of property:

a. Expendable articles. Depending upon the nature of the articles, expendable supplies may be replenished by the applicable method following:

- ① By direct exchange on presentation of the unserviceable articles to the proper station supply officer. (See **c** below.)
- ② By requisition for expendable spare parts, tools and any other items of a similar nature.
- ③ By requisition for supplies issued on an allowance basis. Allowances for expendable supplies are determined from the publications of the technical service charged with furnishing the supplies, such as Circular 1-18, OQMG for expendable quartermaster supplies, Circular No. 1, CWS, for chemical warfare supplies, and the appropriate SNL for ordnance supplies.
- ④ By requisition for repair materials.

b. Nonexpendable articles. Replacement of nonexpendable items (both T/E and T/A property) is secured by one of the following methods:

- ① On presentation to the station supply officer (through the organization supply officer, if the company is attached to an organization for supply) of a complete replacement voucher covering the articles. Such a voucher may be a statement of charges or an approved report of survey.
- ② By direct exchange of unserviceable articles or component parts thereof, accompanied by three copies of a "turn-in" document as prescribed by TM 38-220. (See **c** below.)

c. Unserviceable articles. Unserviceable property is first presented to the local repair shops or to the tactical maintenance unit.

If these facilities cannot put the property into serviceable condition, it will be turned in to the station supply officer or classification officer. The property turned in will be accompanied by three copies of a "turn-in" document which will include or be accompanied by a certificate of fair wear and tear or a report of survey as applicable. The turn-in document will be used by the station supply officer not only as a tally-in but as authority for the issue of the replacement items.

d. Individual clothing and equipment. See paragraph 31.

e. Limitations. Nothing in these paragraphs prescribing the replenishment of equipment will be construed as sanctioning periodic allowances or limiting in any way the number and amount of spare parts that are to be exchanged. The purpose is to provide parts for the maintenance of the authorized allowances of equipment. Damaged parts presented for exchange will be exchanged regardless of the number included in the set, provided the total number of spare parts and tools authorized to be on hand in the company is not exceeded. The accumulation by companies of stocks of spare parts, repair materials, tools, and other property in excess of allowances is prohibited.

31. INDIVIDUAL CLOTHING AND EQUIPMENT.

a. Initial issue. Individual enlisted men will arrive with clothing and equipment prescribed in AR 615-40. The company commander will inspect the clothing and equipment of his men as soon as the newly activated company has received its full complement of enlisted men. Any shortages disclosed by the check which have occurred through the fault of the enlisted men to whom the property was issued must be covered by statements of charges or reports of survey. Additional items to complete the total allowances will be requisitioned through the channels prescribed, from the station quartermaster supply officer. If certain articles have become excess to authorized allowances due to change in station (as from mounted to dismounted), these articles will be turned in immediately to the station quartermaster supply officer.

b. Replacement. Clothing and equipage worn out through fair wear and tear is replaced by the use of exchange orders (form Ex0-1) as prescribed by AR 615-40. Articles not worn out through fair wear and tear are replaced upon the submission of a statement of charges or an approved report of survey.

32. REQUISITIONS. a. Forms used in requisitioning.

When a company is operating as part of an organization, requisitions may be submitted to the organization supply officer orally or by in-

formal memoranda. When the company is operating as a separate company and formal requisitions are required, WD, QMC Form No. 400 (Requisition) as revised by TM 38-220 is used, irrespective of the source from which the property is to be obtained or of the character of the property requisitioned. The special forms prescribed by chiefs of technical services may be used provided the basic information set forth in WD, QMC Form No. 400 as revised is incorporated. The more commonly used exceptions authorized by present directives are:

- ① WD, AGO Form No. 35 (Individual Clothing Slip)
- ② WD, QMC Form No. 409 (Requisition and Receipt for Clothing in Bulk)

b. Preparation. In order to eliminate as much paper work as possible, certificates are no longer required on the requisition. The signature of an organization supply officer or that of the commander of a separate company on a requisition is accepted as a guarantee that the supplies are necessary and, when issued, will not produce an excess of any item. Neither a certificate of necessity nor the approval of the commander of an organization is required. However, the basis (T/O and E, T/E 21, or T/A, including other data necessary to determine the allowance) must be included.

c. Method of submission. 1. When the company is a part of or attached to a separate battalion and formal requisitions are required, the commander prepares the requisition in duplicate and forwards both copies to the organization supply officer. This officer validates one copy and returns it to the company commander pending the receipt of the supplies. When oral or informal requisitions are used, the organization shall acknowledge the receipt of the requisition in writing which shall be filed in lieu of a validated requisition.

2. When a separate company is attached to a division for supply, the company commander prepares the requisition in triplicate, forwards all copies to the appropriate division supply officer, and receives a validated copy for file pending the receipt of the supplies.

3. When a separate company is not organically a part of a separate battalion or attached to a division, regiment, or separate battalion for supply, the company commander prepares the requisition in triplicate, forwards all copies to the appropriate station supply officer, receives a validated copy for file pending the receipt of the goods and is forwarded a second copy by the station supply officer on which he has indicated the action taken. A fourth copy may be required if the station supply

officer wishes to use the requisition as a voucher to his stock records. If other means are used to acknowledge the receipt of the property (such as a copy of a tally-out), this fourth copy is not used.

d. Cir. No. 170, WD 1943. Cir. No. 170, WD 1943 sets up the simplified accounting procedure for organizations and units. The provisions of this circular should be familiar to all officers and enlisted personnel who are charged with company supply and property records.

APPENDIX A

TABLE OF EQUIPMENT *

CHEMICAL

1	2	3	4
ITEM	Allow- ances	For Computa- tion	Basis of Issue and Remarks
Alarm, gas, M1.....	1		
Apparatus, decontaminating: 1½ qt., M2.....	91		1 per fuel consuming motor vehicle
3 gal., M1.....	6		Per Co. in T of Operations
Kit, chemical agent detector, M9.....	1		
Kit, repair, gas mask, universal, M8.....	1		
Mask, gas, service.....	135		1 per individual
Respirator, dust, M2.....	135		2 per wheeled fuel consuming motor vehicle (not to exceed 1 per individual)

ENGINEER

Compass:			
Wrist, liquid filled			
or			
Watch.....	5		1 per O
Net, camouflage, cotton, shrimp			
22 x 22 ft.....	44		1 per trk., ¼-ton, 4 x 4
29 x 29 ft.....	42		1 per ¾-ton trk.; 1-ton trailer
36 x 44 ft.....	1		1 per 2½-ton trk.
			The net, camouflage, cotton, shrimp will be issued when au- thorized by Army or T of Opns. Comdr. Pending availability of the net, camouflage, cotton, shrimp, the net, camouflage, twine, fabric, garnished, may be issued in lieu thereof when authorized by Army or T of Opns. Comdr. and requisitioned in summer, desert or winter garnishing.
Template, map, M1.....	10		1 per O; 1st Sgt.; St. Sgt. (651)

*For planning purposes only; see latest TE 10-87.

MEDICAL

Kit, first aid:		
Gas casualty	5	1 per 25 indiv. or major fraction thereof in T of Opns.
Motor, vehicle, 12-unit.....	46	1 per 2 fuel consuming motor vehicles or fraction thereof

ORDNANCE

Weapons and Miscellaneous

Binoculars, M3	1	Per Co.
Carbine, cal. .30, M1A2.....	106	1 per indiv. armed w/carbine in T/O (For orgn. spare parts, sets, and equipment, see SNL B-28)
Launcher, grenade, rifle.....	29	1 per rifle, US, cal. .30
Launcher, rocket, AT, 2.36 inch, M1A1.....	5	
Rifle, US, cal. .30, M1903....	29	1 per indiv. armed w/rifle in T/O
Watch, 7 jewel, wrist, complete	5	1st Sgt., St. Sgt. (651)

Vehicles

Trailer, 1-ton, 2-wheel, cargo..	1
Truck:	
1/4-ton, 4 x 4.....	44
3/4-ton, 4 x 4, command....	41
3/4-ton, 4 x 4, weapons carrier	5
2 1/2-ton, 6 x 6, cargo.....	1

Motor Transport Equipment

Defroster and deicer, electric, windshield.....	91	1 per fuel consuming motor vehicle (when auth. by army or force comdr.)
Tool sets (complete w/tools)		
Motor vehicle mechanics...	6	
Second echelon set:		
No. 2.....	1	
No. 5.....	1	
No. 7.....	1	

QUARTERMASTER

Individual Equipment

Bag, canvas, field, od, M1936	135	1 per indiv.
Belt:		
Cartridge, cal. 30, dis- mounted, M1923.....	29	1 per indiv. armed w/rifle, cal. 30, M1903
Pistol or revolver, M1936..	106	1 per indiv. armed w/carbine, cal. .30, M1
Cover, canteen, dismounted, M1910.....	135	1 per indiv.
Pocket, magazine, for carbine, cal. 30, M1.....	106	1 per indiv. armed w/carbine, cal. .30, M1
Strap, carrying, od, bag, can- vas, field.....	135	1 per bag, canvas, field, od, M1936
Suspenders, belt, M1936.....	135	1 per bag, canvas, field, od, M1936

Organizational Equipment

Axe, intrenching, M1910.....	13	1 per 10 EM
Bag:		
Canvas, water, sterilizing, c/w cover and hanger....	1	
Carrying, ammunition.....	29	1 per launcher, grenade
Carrying, rocket, M6.....	10	2 per launcher, rocket, M1A1
Delousing.....	20	10 per 100 indiv. or fraction thereof in areas where louse borne typhus is high, when authorized by the WD
	6	3 per 100 indiv. or fraction thereof in areas where louse borne typhus is low, when authorized by the WD
Bucket:		
General purpose, galvanized, heavy weight, w/o lip, 14 qt.	2	
Canvas, water, 18-qt.....	91	1 per fuel consuming motor vehicle
Can, corrugated, nesting, gal- vanized, with cover:		
10-gallon.....	1	
16-gallon.....	1	
24-gallon.....	1	
32-gallon.....	1	
Can, water, 5-gallon.....	26	1 per 5 indiv. or major fraction thereof

Carrier:		
Axe, intrenching, M1910 . . .	13	1 per axe, intrenching
Pickmattock, intrenching, M1910	24	1 per pickmattock, intrenching
Shovel, intrenching, M1910 . . .	91	1 per shovel, intrenching, M1910. (Carrier, shovel, in- trenching, M1943 will be is- sued for the shovel, intrench- ing, M1943, when available)
Case, canvas, dispatch, M1938	6	1 per O; 1st Sgt.
Chest, record, fiber, company .	1	
Clipper, hair	5	1 per 24 indiv. in extremely cold areas
Desk, field, empty, fiber, co . .	1	
Drum, inflammable liquid (gas- oline) steel, w/carrying han- dle, 5-gal.	139	1 per field range; truck 1/4-ton; 2 per trk. 3/4-ton; trk 2 1/2-ton
Flag, guidon, bunting	1	
Fly, tent, wall, large	1	
Goggles, M1943:		
With clear lens	91	1 per driver of fuel consuming mtr. vehicle
With green lens	38	1 per indiv. not otherwise issued goggles, when auth. by CG, Serv. Comd. or T of Opns.
Heater, immersion type, for cans, corrugated	3	3 per range, field, M1937 (3 heaters for range, field will be issued in lieu thereof until exhausted)
Kit, barber, with case	1	In T of Opns. outside of con- tinental US
Kit, sewing	11	1 per 12 indiv. or fraction thereof
Lantern:		
Electric, portable, hand . . .	1	
Gasoline, two-mantle, com- mercial	2	
Pickmattock, intrenching, M1910	26	2 per 10 EM
Range, field, M1937, 3-unit . .	1	
Scabbard:		
Rifle, M1938	22	1 per driver armed w/rifle
Canvas, carbine, cal. .30, M1	81	1 per driver armed w/carbine
Screen, latrine, c/w pins and poles	1	
Shovel, intrenching, M1943 . .	91	7 per 10 EM (shovel, intrench- ing, M1910, will be issued in lieu thereof until exhausted)

Tool kit (c/w tools) carpenter's	1	
Trumpet, G-slide to F.....	1	1 per bugler
Tube, flexible, nozzle.....	91	1 per fuel consuming motor vehicle
Typewriter, portable, w/carrying case.....	1	1 per desk, field
Whistle, thunderer.....	10	1 per O; 1st Sgt.; St. Sgt. (651)

SIGNAL

Flashlight, TL-122 ().....	114	1 per O; 1st Sgt.; St. Sgt.; motor mechanic (014); fuel consuming motor vehicle
Panel set, AP-50-A.....	23	1 per 4 fuel consuming motor vehicles

APPENDIX B

CHECK LISTS FOR FOREIGN DUTY

PART I

FOR ALL MILITARY PERSONNEL ORDERED TO FOREIGN DUTY*

The following tabulation is based on WD Cir. 333, 1942, as amended by WD Cir. 361, 1942.

1. All military personnel ordered to foreign duty, before departing from their home stations, should have in their possession a check list similar to the one below. If the procedure outlined in the check list is followed, military personnel arriving at their oversea destinations will have little if any trouble in getting established at their new stations. So far as possible military personnel will be processed at their home stations before departing therefrom.

2. CHECK LIST. a. Administrative. 1. Officer's Identification Card (WD AGO Form No. 65-1). A threefold card with photograph, fingerprints and signature.

- 2. Identification tags, metal (two), showing:** (a) Full name.
 (b) Army serial number.
 (c) Date of tetanus inoculation.
 (d) Blood type.
 (e) Religion, if desired.

*All personnel should be familiar with "Preparation for Overseas Movement" (short title, P.O.M.) second edition, published by the War Department and dated 1 August 1943.

3. *Power of attorney. (a) General.* For any use but cashing Government checks.
- (b) *Special.* For use only in cashing Government checks.
4. *Will.* Officers going overseas should make a will.
5. *Statement of service.* If a National Guard Officer or Reserve Officer.
6. *Four copies of secret orders.*
7. *Ten extract copies of orders.*
8. *Passport.* If passport is required.
9. *Visas.* Passport should be visaed for all countries in transit.
10. *Passport photographs.* Seven extra copies.
11. *Information booklets.* On the country or countries to which the unit is going.
12. *WD AGO Form No. 41.* (Designation or Change in Address of Beneficiary.)
13. *WD AGO Form No. 43.* (Emergency addressee and Personal Property Card.)
14. *APO number.*
15. *Clothing.* Uniform should be complete.
16. *Field equipment.* Complete field equipment should have been issued.
17. *Air priority.* If travel is to be by air.
- b. Financial.**
 1. *Allotments.* To cover any of the following:
 - (a) Self.
 - (b) Dependents.
 - (c) Commercial insurance.
 - (d) National Service Life Insurance.
 - (e) War Risk Insurance.
 2. *Application for pay reservation for War Bonds.*
 3. *Uniform allowance.* If eligible, obtain copies of statement of service and of original active duty orders.

4. Mileage allowance. If travel from last station was performed by transportation request, obtain two copies of WD TC (QMC) Form No. 207 (Transportation Certificate for Passenger Travel).

5. Per diem.

6. Rental certificate. Showing nonassignment or termination of quarters at last station.

7. Pay data card. Showing pay and allowances. Should be up to date, showing all deductions.

c. Medical. The required immunizations complete and authentically recorded on Immunization Register (WD,MD Form No. 81).

1. The required immunizations are: (a) For all personnel:

1. Smallpox, one vaccination.

2. Typhoid-paratyphoid vaccination, three injections, 1-week intervals. Smallpox and typhoid-paratyphoid vaccinations must have been done within the 12 months prior to departure.

3. Tetanus immunization, three injections, 3-week intervals, or one injection only if initial or stimulating injections were administered more than 6 months before departure.

(b) When specifically ordered. 1. Yellow fever vaccination, one injection.

2. Cholera vaccination, two injections, 1-week interval.

3. Typhus vaccination, three injections, 1-week intervals.

2. Blood type. Blood type should be shown on register and identification tags.

3. Dental attention. All teeth should be checked for cavities and taken care of before departure.

4. Glasses. If glasses are worn, an extra pair should be carried.

5. Physical inspection. (a) At home station.

(b) At port of embarkation.

Physical inspection to be made at port of embarkation if 48 hours have elapsed since physical examination at home station.

3. Military personnel ordered into Washington, D. C., prior to their departure for an oversea station will contact the AGO Travel Bureau and have the status of their processing checked. If processing has not been completed, the AGO Travel Bureau will render the necessary assistance in completing it.

4. It is proposed to set up in the near future additional travel bureaus at key points in the United States. Upon organization, the location of these additional bureaus will be published. Thereafter, military personnel going overseas will contact the travel bureau nearest their point of departure from the United States.

PART II

OFFICERS' UNIFORM AND EQUIPMENT FOR OVERSEAS

5. The following information is provided by the Transportation Corps Travel Office:

a. Baggage. 1. Officers traveling with troops: baggage limited to one bedding roll, weight not to exceed 50 pounds; one piece of hand baggage or clothing roll, weight not to exceed 40 pounds; and one trunk locker of the approximate dimensions 31½ by 18 by 13½ inches. The total weight of baggage, including hand baggage, will not exceed 175 pounds.

2. Officers traveling individually by water: same as above (AR 55-410).

3. Officers traveling by air: limited to 55 pounds. In addition, the remainder of the traveler's baggage up to 175 pounds may be shipped by water. An officer going all the way by water may take his full baggage allowance with him. If it is expected that he will travel any portion of the way by air, the 55-pound limit must be observed.

4. The following list of items with their weights will give the officer some indication of how much equipment he may take with him.

Item	Weight in Pounds
Basic uniform, cotton, per man.....	7.0
Basic uniform, wool, per man.....	8.5
Basic uniform, wool, plus field jacket and gloves.....	10.5
Basic uniform, wool, plus overcoat and gloves.....	16.0
Bedding roll, officers, 2 blankets, sleeping bag, canvas bucket, extra clothing, field jacket (3 cu. ft.).....	32.0
Field roll, individual, blanket, shelter half, tent pins, raincoat, extra clothing (1 cu. ft.).....	16.0
Canteen, filled, cup, cover, first-aid pouch.....	3.3
Helmet, steel.....	2.3
Meat can, knife, fork, 2 spoons M-1932.....	1.2
Raincoat.....	2.2
Typewriter, portable.....	16.5

b. Clothing*. Below is a list of clothing suggested for every officer going on foreign duty. For certain countries, additional clothing will be necessary because of climate. Certain items will vary according to assignment. An officer assigned to a headquarters in London, for example, would require more than one coat, whereas an officer assigned to a combat unit can get along with one.

1. Basic Articles. (To be purchased by the officer.)

1 cap, service, wool	8 undershirts
1 cap, garrison, wool (overseas)	12 pairs socks, cotton, tan
2 caps, cotton, khaki (overseas)	1 pair shoes, service, high
1 coat, wool, elastique	2 pairs shoes, low
2 pairs slacks, wool (1 pink, 1 dark)	1 pair slippers
1 pair slacks, wool (enlisted od)	4 shirts, cotton, heavy khaki
2 shirts, field, wool	4 shirts, cotton, light khaki
4 pairs slacks, cotton, khaki	4 wool tan ties
1 short coat (preferable to overcoat)	4 cotton tan ties
1 field jacket	24 handkerchiefs
1 pair leggings, canvas	1 set toilet articles
2 complete extra sets of insignia	2 pairs garters
1 belt, waist, khaki	1 cigarette lighter
8 pairs shorts, underwear	6 bars of soap and supply of towels
2 cans lighter fluid (cannot be taken by air travel)	(Do not forget the lighter. Matches are almost unobtainable)

2. Extra clothing for Iran, Iraq, Egypt, North Africa, India, and Australia.

- 1 coat (tropical worsted). Suggested only; blouses are worn by British after working hours
- 1 pair slacks (tropical worsted)
- 3 pairs shorts, cotton, khaki (buy them here, they are hard to get overseas)
- 3 shirts, cotton, short sleeves, khaki (for use with khaki shorts)
- 3 pairs socks, wool, long (for use with khaki shorts)
- 1 sun helmet
- 1 pair sun glasses, best quality.

3. Extra clothing for arctic regions.

1 hat rubberized	1 toque, face
1 overcoat, parka type	1 pair shoe pacs, 16-inch, rubberized bottom, leather top
1 sweater, worsted, turtle neck	1 parka, double texture, rubberized
2 undershirts, wool, knit, arctic	1 jacket, field, arctic
1 pair trousers, jersey lined	1 sweater, sleeveless
4 pairs socks, wool, arctic	2 pairs drawers, wool, knit, arctic
1 pair gloves, wool, od, arctic	1 pair goggles, polarized
1 pair mittens, horsehide, lambskin lined	
1 pair trousers, double texture, rubberized	

*Note: The summer uniform has not been authorized for use in England. Extra clothing for arctic regions may be obtained from the quartermaster at the port of embarkation. Officers should not draw arctic clothing unless ordered to do so.

c. Equipment. (The following will be issued to the officer).

QUARTERMASTER

- 1 (NS) 74-H Helmet, Bodies, M1
- 1 (NS) 74-L Liner, Helmet, M1
- 1 (NS) 74-H Headband, Helmet, M1
- 1 (NS) 74-N Neckband, Helmet, M1
- 1 74-B-53 Bag, canvas
- 1 74-B-265 Belt, pistol
- 1 74-K-60 Knife (M-1926)
- 2 27-B-678 Blankets, wool, od
- 1 74-C-62 Can, meat (M-1932)
- 1 74-C-80 Canteen (M-1910)
- 1 74-C-300 Cover, canteen
- 1 74-C-354 Cup, canteen (M-1910)
- 1 74-F-63 Fork (M-1926)

- 1 24R-110 Roll, bedding, waterproof
- 1 74-S-312, Spoon (M-1926)
- 2 74-P-225 Poles, tent, shelter, half
- 10 74-P-125 Pins, tent, shelter, wood
- 2 74-T-100 Tent, shelter half
- 1 74-S-389 Suspenders, belt (M-1936)
- 2 74-L-70 Line, tent, shelter half

Small arms and ammunition will be issued in accordance with the table of organization to which officer is assigned or as directed in movement order.

MEDICAL

- 1 Packet (First Aid)

ORDNANCE

- 1 74-P-260 Pouch, first aid packet

CHEMICAL WARFARE

- 1 37-M-1505 Mask, gas diaphragm

One trunk locker will be issued to each officer, warrant officer and nurse. (WD Cir. 9 of 1943).

d. Financial arrangements. As adequate facilities are available abroad for conversion of United States currency to foreign exchange, and in order to avoid violation of secrecy on sailings, individuals receiving orders directing their transfer to destinations outside the continental United States will not obtain foreign exchange prior to embarkation. (WD Circular No. 222, 10 July 1942.)

e. Personal funds. 1. Personal funds may be carried in one or more of the following ways:

- (a) Letter of credit from bank.
- (b) Currency—\$1—\$5—\$10 notes.
- (c) Travelers' checks.

2. It is recommended that allotments be arranged so that a large surplus of cash will not accumulate overseas. A cash reserve on hand should never be more than \$250.

f. Passport. All military personnel traveling overseas, excepting those traveling with troops on a transport, will be required to have passports which have been visaed for the countries en route to final destination. Passport photographs must be obtained. In Washington, the Transportation Corps Travel Office will make arrangements. Outside of Washington, application should be made to nearest Federal Court clerk. Birth certificates are not required for officers. Passport should be kept on the person at all times, not in luggage.

[illegible]

g. Travel of dependents. When new permanent station is located outside the continental limits of the United States, dependents of an officer may travel at Government expense to any place in the United States selected by the officer as their permanent home. Only one movement is allowed after 1 September 1942. (WD Cir. 261 of 1942, as amended by WD Cir. 279 of 1942.)

APPENDIX C

ADMINISTRATIVE CHECK LISTS

PART I

MILITARY RECORDS

The following administrative check lists are printed to aid company commanders, first sergeants and company clerks in the administration of quartermaster organizations. Part one contains a list of the administrative forms and records which must be kept by a company or similar organization. It is divided into two sections, the first containing a list of the forms and records required of a company when attached to a personnel section, the second containing a list of additional forms and records when the company is "separated" or "detached."

Part two of this appendix contains a list of administrative actions required of a company commander when he is (1) activating a separate or detached company, (2) taking over a company already formed, and (3) running the company from day to day.

a. Company Records

Form

Company Correspondence File.....	
Company Council Book.....	WD QMC 15
Company Morning Report.....	WD AGO 1
Company Orders.....	
Company Property Book.....	QMC 424 (rev.)
Company Punishment Record.....	
Daily Ration Allowance Return.....	
Daily Sick Report.....	WD AGO 5
Driver's Report—Accident, Motor Transport.....	S F 26
Duty Roster.....	WD AGO 6
Enlisted Man's Pass.....	WD AGO 7
Exchange Order (optional form).....	ExO-1
Individual Clothing and Equipment Record.....	WD AGO 32

Individual Clothing Slip.....	WD AGO 35
Individual Equipment Record.....	WD AGO 33
Report of Survey*.....	WD AGO 15-1
Requisitions.....	WD QMC 400, 401, 409
Statement of Charges*.....	WD AGO 36

b. Personnel Records. These are also required to be kept by the company when it is "separated" or "detached".

Authorization for Class B Allotment for Purchase of War Savings Bonds.....	WD AGO 29-6
Requests for Change in Class B Allotments for War Savings Bonds.....	WD AGO 30-6
Request for Discontinuance Class B Allotment War Savings Bonds.....	WD AGO 30-7
Abstract of Class "B" Allotment Deductions.....	WD FD 54
Application for Family Dependency Benefits Allowances. Class F Deduction (when prepared by individual soldier). (See Part II, c)	WD AGO 625
Certificate of Service.....	WD AGO 280
Charge Sheet (for Courts-martial).....	WD AGO 115
Class D, E, and N Allotments; application, authorization, discontinuance, changes, etc.....	WD AGO No. 29, 29-1, 30 USVB 350, 724, 896
Consolidated Report of Classification in Arms.....	WD AGO 111
Correspondence and Files.....	
Descriptive List of Absentee Wanted by the United States Army..	WD AGO 45
Designation or Change in Address of Beneficiary.....	WD AGO 41
Discharges (including Certificate of Disability for Discharge)...	WD AGO 40, 55, 56, 57
Emergency Addressee and Personal Property Card.....	WD AGO 43
Extract from Service Record.....	WD AGO 25
Extract copy of Morning Report.....	WD AGO 44
Final Statement.....	WD 370
Furlough.....	WD AGO 31
Investigating Officer's Report—Motor Transport.....	SF 27
Notification of Discharge.....	WD AGO 39
Pay Rolls.....	WD 366, 366a, 366b
Soldier's Individual Pay Record.....	WD AGO 28
Soldier's Qualification Card.....	WD AGO 20
Report of Return of Absentee from the United States Army.....	WD AGO 46
Report of Death.....	WD AGO 52
Report of Desertion (See Part II, c).....	WD AGO 44
Report of Physical Examination of Enlisted Man Prior to Discharge or Retirement.....	WD AGO 38
Report of Individual Classification in Arms.....	WD AGO 110

*These forms are initiated by the company commander as the "responsible officer," but preparation is usually done by the personnel section or (in the case of WD, AGO Form 15-1) the regimental supply officer or the board of officers for property adjustment.

Report of Change.....	WD AGO 303
Initial—Special—Final Roster.....	WD AGO 309
Service Record.....	WD AGO 24
Inserts to Service Record.....	WD AGO 24-1 to 24-7
Special Orders.....	
Statement of Accounts.....	WD AGO 27
Pay and Allowance Account—Individual Enlisted Man.....	WD 337, 337a

PART II

COMPANY COMMANDER'S CHECK LIST

a. When activating a separate or detached company without assistance from personnel section.

1. Prepare Initial Roster.....AR 345-900, Par. 12
2. Submit Initial Report of Change.....AR 345-800, Par. 18
3. Initiate Morning Report.....AR 345-400
(Prepared in triplicate by 1st sergeant. Company commander authenticates. 2 copies sent to higher headquarters daily.)
4. Check Table of Organization.....AR 615-26
(Requisition personnel to bring unit up to authorized strength.)
5. Initiate Company Property Book.....WD Cir. 12, 1943, 170, 1943
6. Check Qualification Cards and Service Records.....AR 615-26
(Assignments in accordance with qualifications.)
7. Company Orders.....AR 615-5; WD Cir. 25, 109, 140, 148, 1942;
(Appointment and reduction of privates, first class, AR 615-10
technicians, and noncommissioned officers.)
8. Initiate Daily Sick Report.....AR 345-415
(Prepared by 1st sergeant. Company commander authenticates. Send to unit surgeon with sick detachment. 1 copy.)
9. Initiate Duty Roster.....AR 345-25
(Prepared by 1st sergeant. Company commander supervises. 1 copy retained by company.)
10. Company Fund.....AR 210-50
 - (a) Council Book.
(Prepared and kept by company commander, 1 copy, file voucher for each item, audited by company council each month.)
 - (b) Property list.
 - (c) Bank account.....AR 210-50
11. Company History.....AR 345-105

12. Check Combination Equipment Chart and Requisition. Cir. Letter No. 94, 1943, OQMG
(Chart covers all items and quantity thereof of individual and organizational quartermaster equipment to be initially issued unit by all supply arms and services, except individual clothing and equipment issued soldier at reception center. Company commander will receive copy of chart and will check with it against items issued to secure fulfillment of issue provided thereon. Applies to newly activated units, Army Ground Forces.)
13. Check Table of Equipment against Combination Equipment Chart and Requisition referred to in (12) above.
14. Check Table of Allowances No. 20 for issue of post property.
15. Provide files for individual clothing and equipment records, and property papers.
16. Sex Morality Course..... AR 40-210, TC 28, 1943

b. When taking over a company already formed.

1. Inventory of Property and Equipment.
 - (a) Property Book.....QMC 424 (rev.)
 - (b) WD AGO No. 32 and 33.
 - (c) Check with custodial officer on T/A property.
2. Transfer Unit Fund.
 - (a) Check Council Book.....WD QMC 15
 - (b) Check company property list.
 - (c) Transfer bank account.
3. Check Roster of Company against T/O.
4. Check Morning Report against Roster.....WD AGO 1
5. Check Duty Roster.....WD AGO 6
6. Check Service Records and Soldier's Qualification Cards....WD AGO 24
(Commanding officers should know the qualifications WD AGO 20
and backgrounds of their men.)

c. After company is in existence, assuming the company is "separated" or "detached". When the company is assigned to a personnel section the following forms marked with an asterisk are usually prepared in the personnel section.

1. DAILY

- (a) Morning Report, WD AGO 1 AR 345-400
- *(b) Report of Change, WD AGO 303 AR 345-800
(Prepared by personnel officer, 3 copies. Original to machine records section. For individual quartermaster officers, duplicate to Quartermaster General. For individual enlisted men, duplicate is not transmitted. For quartermaster units, duplicate to Quartermaster General, except not forwarded when outside continental United States. Triplicate: For individual enlisted men and officers is retained in personnel section, for units to "Adjutant General, Attention: Directory Section, Operations Branch, Washington, D. C.")
- (c) Sick Report, WD AGO 5 AR 345-415
(Company commander authenticates, sent to unit surgeon with sick detachment, 1 copy only.)
- (d) Duty Roster, WD AGO 6 AR 345-25
(Publish duty details, 1 copy only retained by company.)
- (e) Company correspondence and files AR 340-15; AR 345-620
- (f) Company orders AR 310-50;
Appointment and reduction of privates, first class .. AR 615-5
- (g) Daily Ration Allowance Return WD Cir. 208, 1943
(Made out in duplicate, original sent to Personnel Section along with Morning Report.) AR 345-400

2. MONTHLY

- *(a) Pay Accounts AR 345-155;
 - 1. Pay Rolls AR 35-4520;
(Prepared and authenticated by personnel officer in quadruplicate. Original and second copy to the disbursing officer, third copy for company records, first copy sent TAG in lieu of roster.) AR 35-5520;
AR 35-1440;
AR 35-2440;
AR 345-475
 - 2. Voucher for Pay and Allowances of Individual Enlisted Men. (WD Form 337.)
- *(b) Check and return roster from machine records unit.
- *(c) Company council meeting AR 210-50
Audit Council Book.
- *(d) Ration Record WD Cir. 208, 1943
(Made out in quadruplicate, original and two copies sent to division quartermaster.)
- *(e) Initiate new forms.
 - 1. Duty Roster AR 345-25;
 - 2. Council Book AR 210-50

3. QUARTERLY

- (a) T/BA requisitions {or as directed by} AR 35-6540; WD Cir. 170, 1943
- (b) Clothing requisitions {higher authority} AR 35-6540; AR 615-40
- (c) Requisitions for expendables (or as needed)..... OQMG Cir. 1-18,
1 Nov. 1942

4. SEMIANNUALLY

- *(a) Read Articles of War. Enter in Service Record..... AW 110;
(Company commander sends informal memorandum AR 345-125, par. 16;
to the personnel section.)
- *(b) Check Service Records..... AR 345-125
- (c) Physical inventory of property.

5. ANNUALLY

- (a) Check supply and property records..... WD Cirs. 12 and 170, 1943
 - 1. Company Property Book.
 - 2. Periodic settlement of M/R Account for post
property where custodial system not used..... AR 35-6520
- (b) Company orders.
- (c) New correspondence file..... AR 345-620

6. MISCELLANEOUS (throughout year)

- (a) Allotments.
 - *1. Class B..... AR 35-5520;
(Purpose: to purchase War Savings Bonds, AR 345-155;
Authorization, WD AGO Form 29-6, is executed WD Cirs. 44,
in triplicate; original to Army War Bond Office, 53, 56, 62,
Finance Dept., 366 West Adams St., Chicago, Ill.; 78, 90, 114, 135
duplicate retained by certifying officer; triplicate and 152, 1943
retained by allotter.)
 - *2. Class E..... AR 35-5520;
(Purposes: (1) support of allotter's family or WD Cirs. 44,
dependent relatives, (2) to banks in the United 382, 1942;
States, (3) to commercial life insurance com- AR 345-155
panies for payment for premiums. Authorizations
made in duplicate on WD AGO Form 29. Dupli-
cate is filed with service record. Send original,
and all correspondence pertaining thereto to:
"Office of Dependency Benefits, 213 Washington
St., Newark, N. J.", see WD Cir. 382, 1942.
Make notations on service record, pay roll and
soldier's individual pay record. For discontinuance
use WD AGO Form 30. Class E Allotments will
be accepted from military personnel wherever
situated, see WD Cir. 382, 1942.)

- *3. Class D.....AR 600-100,
(Covers allotments for premiums for United States Government life insurance. Forms and procedure are same as with Class E Allotments. All forms and correspondence pertaining thereto will be forwarded to "Examination Division, Bldg. X, 19th and B Sts., N. E., Washington, D. C.") AR 35-5520, WD Cir. 382, 1942
- *4. Class N.....AR 35-5520,
(Allotments for premiums for National Service Life Insurance. Forms, procedure, and corresponding address same as with Class D Allotments, except applicant should mail duplicate to his beneficiary.) WD Cir. 382, 387, 389, 1942
- *5. Class X.....AR 35-5520
(For personnel on duty outside continental limits of U. S. whose dependents reside in foreign country other than that in which such personnel may be serving.)
- (b) Company Punishment Record.....AW 104
(No entry made on service record, but company commander will keep record showing date, offense, party, and punishment. In case of transfer, record is filed but *no* transcript is forwarded to new commanding officer.) AR 345-125,
- (c) Class F Deduction.....AR 35-5520;
(WD AGO Form 625, Application for Family Allowances, is executed in triplicate. Have eligible enlisted man, grades 4 to 7 inclusive, sign before notary. "Original" is indorsed by personnel officer or organization commander and mailed to: "Allowance and Allotment Branch, War Department, Bldg. Y, 20th and B Sts., N. E., Washington, D. C." "Official copy" is filed with soldier's service record, third copy is applicant's. On receipt of WD AGO 650, Notification of Action Taken on Application for Family Allowances, where same is approved, entry of proper pay roll notations and Soldier's Individual Pay Record and Card will be verified. WD Cir. 28, 1943, prescribes special procedure for applications by new selectees.) Bulletin 29, WD 1942; WD Cir. 225, 288, 1942, and 28, 69, 90, 1943
- *(d) Discharge.....AR 615-360;
WD Cir. 4, 48, 92, 1943
- *1. Certificate of Service (Form is WD AGO Form 280. Personnel officer prepares in duplicate. The recipient and the commanding officer sign both copies. Not prepared when honorable discharge is furnished.) AR 345-500

- *2. Discharge Certificates..... AR 345-470;
(Personnel officer prepares on printed form,
original only. Character entry certified to by
company or detachment commander.) AR 345-465

- *3. Final Statement..... AR 345-475;
(Prepared in duplicate. Original only signed.
Personnel officer certifies. Enlisted man presents
original to proper disbursing officer for payment.) AR 35-2480

- *4. Report of Physical Examination of Enlisted Man
Prior to Discharge or Retirement..... AR 40-100
(Enlisted man will declare his physical condition
thereon, and then be examined by Medical Officer
within 72 hours prior to discharge. Not used
where discharged for physical disability or because
of sentence of civil court. Sent to immediate
commander for his signature.)

- *(e) Emergency Addressee and Personal Property Card..... WD Cir. 338,
(WD AGO 43 is prepared in and retained by per- 353, 1942
sonnel section. Cards will be prepared for personnel
now overseas and sent to The Adjutant General.
Send with Service Record in case of transfer. If
ordered outside continental U. S. send to The Ad-
jutant General.)

- *(f) Furloughs, Passes and Delays..... AR 615-275
(Furloughs to be 15 days or less except in emergency
or return from overseas or convalescence; may not
exceed 15% of command at a time except as pro-
vided. 15% rule waived in case of men completing
basic training. Passes may be granted for not more
than 3 days.) Application for furlough initiated by
EM. If application approved, officer authorized to
grant furloughs requests personnel officer to prepare
in duplicate. Original signed by authorizing officer
and EM. Duplicate kept by personnel officer.

- (g) Report of Survey Loss or Damage in Transit..... AR 35-6640;
(For property rendered unserviceable *other* than by WD Cir. 75,
fair wear and tear, organization supply officer pre- 147, 170, 1943;
pares in triplicate; evidence is attached only to orig- WD Pamphlet
inal. For property worn out through fair wear and 38-1, 3-1-43
tear, authority determining the unserviceable prop-
erty as beyond state of repair prepares report of sur-
vey in quadruplicate; original to accountable officer
as credit voucher; duplicate to service command
marked "for the property auditor"; triplicate to
service command for file; quadruplicate to salvage
officer.)

- *(h) Qualification in Arms..... AR 354-1000
(Report is made on WD AGO Form 110 by unit personnel officer from data contained in original score cards or reports of boards of examination. Report is then referred to officer who supervised the record practice. He verifies report from original score cards, signs certificate thereon, and returns it to unit headquarters. Personnel officer prepares classification order which the adjutant signs and publishes. Organization commander destroys score cards upon receipt of classification order. Qualification of each man is entered by personnel officer under "Remarks" on WD AGO 20. Unit commander requisitions and issues qualification badges and bars. The Consolidated Report of Classification in Arms (WD AGO Form 111) is prepared by personnel officer.)
- (i) Absence Without Leave and Desertion..... AR 615-300;
(See references for administrative details and procedure.) AR 615-360;
WD Cirs. 46, 156,
159, 1943
- *(j) Report of Death..... AR 600-550
(If death occurs within continental limits of U. S., excluding Alaska, WD AGO Form 52 is prepared in duplicate and sent TAG. WD AGO Form 54, Inventory of Effects, is also prepared.)
- *(k) Soldier's Deposits..... AR 35-2600;
(Personnel officer prepares and signs WD FD Form AR 345-75
10 in quintuplicate.)
- *(l) Soldier's Handbook, FM 21-100.
(Check to see issue to each enlisted man. Personnel officer enters "FM 21-100 issued" with date in Remarks Administrative in service record.)
- *(m) Soldier's Individual Pay Record..... AR 345-155, Par. 12;
Prepared by personnel officer and issued to enlisted man at time service record is initiated. Entries authenticated by personnel officer. Pay roll is prepared for casual payment to enlisted man when individual pay record is presented to any personnel officer for one who has been separated from his organization and service record. When casual payment made, personnel officer will notify enlisted man's organization commander on WD AGO 19, Notice of Casual Payment, so proper entry may be made in service record.) WD Cir. 93, 1943
- *(n) Soldier's Qualification Card..... AR 615-25;
(Will accompany the service record of men upon transfer. Personnel officer is custodian, and supervises organizational assignment of personnel. It is his WD Cir. 383, 1942

responsibility to record all newly developed skills, and keep the card up to date. It is responsibility of company commander to study qualification cards of his men so he may know their skills and abilities in making assignments and promotions. When enlisted man fires record course and fails to qualify, enter under "Remarks showing weapon, course, and date firing completed."

- **(o)* Statement of Charges, WD AGO Form 36..... AR 345-300;
 (Prepared by personnel officer in triplicate. One copy AR 615-300,
 retained by personnel section, one to company, and Par. 10;
 one to appropriate supply officer.) WD Cir. 170, 1943

APPENDIX D

REFERENCES

This appendix contains a list of Army publications which should be readily available to the key personnel of the company. Publications are listed under the title of the officer or enlisted man to whom they most closely pertain.

- 1. COMMISSIONED OFFICERS.** **a.** FM 10-5, Quartermaster Field Manual—Quartermaster Operations.
- b.** FM 10-10, Quartermaster Field Manual—Quartermaster Service in Theater of Operations.
- c.** FM 21-5, Military Training.
- d.** FM 21-45, Protective Measures, Individuals and Small Units.
- e.** FM 25-10, Motor Transport.
- f.** FM 31-15, Operations in Snow and Extreme Cold.
- g.** FM 31-20, Jungle Warfare.
- h.** FM 31-25, Desert Operations.
- i.** FM 100-5, Field Service Regulations—Operations.
- j.** FM 100-10, Field Service Regulations—Administration.
- k.** TM 12-250, Administration.
- l.** TM 21-300, Driver Selection and Training.

2. NONCOMMISSIONED OFFICERS.

a. First sergeant.

1. FM 10-5, Quartermaster Field Manual—Quartermaster Operations.
2. FM 10-10, Quartermaster Field Manual—Quartermaster Service in Theater of Operations.
3. FM 21-6, List of Publications for Training.
4. FM 25-10, Motor Transport.
5. TM 12-250, Administration.
6. TM 12-252, The Army Clerk.
7. TM 12-255, Administrative Procedures.
8. TM 21-300, Driver Selection and Training.
9. AR 1-5, AR 1-10, AR 310-100, AR 310-105, AR 310-200; "35" series, Army Regulations.
10. Cir. 1-17, OQMG.

b. Staff sergeant (mess).

1. FM 21-10, Military Sanitation and First Aid.
2. TM 10-205, Mess Management and Training.
3. TM 10-405, The Army Cook.
4. TM 10-406, Cooking Dehydrated Foods.
5. TM 10-407, Cutting of Beef.
6. TM 10-408, Cutting and Preparing Lamb.
7. TM 10-410, The Army Baker.
8. WD Circular 208, 1943.

c. Technical sergeant (motor).

1. FM 25-10, Motor Transport.
2. TM 9-2810, Motor Vehicle Inspections and Preventive Maintenance Servicing.
3. TM 10-460, Driver's Manual.
4. TM 10-510, The Motor Vehicle.
5. TM 21-300, Driver Selection and Training.
6. Manufacturers' maintenance manuals for the vehicles used by the company.

d. Staff sergeant (platoon). See sub-paragraph c above.

e. Staff sergeant (supply).

1. Tables of Basic Allowances Nos. 10 and 21.
2. Tables of Allowances.
3. Tables of Equipment.
4. Cir. 1-18, OQMG.
5. Quartermaster Supply Catalog (Cir. 4, OQMG).
6. Nomenclature lists or supply catalogs for Chemical Warfare Service, Medical Department, Corps of Engineers, Signal Corps, Air Corps.
7. Quartermaster Supplement to Federal Standard Stock Catalog.
8. Forms pertaining to property accounting, AR 35-6720.
9. Allowances and distribution, AGO forms with AR references, AR 310-105.
10. Weekly and monthly laundry lists, QMC forms, WD Cir. 175, 1942, and AR 30-2135.
11. Allowances of target accessories, AR 760-400.
12. Allowances of ammunition, AR 775-10.
13. Enlisted men, clothing and equipage, AR 615-40.
14. Simplified accounting procedure, WD Cir. 170, 1943.
15. AWOL and deserters' clothing, AR 615-300.
16. Fitting shoes and socks, AR 850-125.
17. Price list, clothing and equipage, AR 30-3000.
18. Price list, regular supplies controlled by budget credits, WD Cir. 5, 1942, WD Cir. 170, 1943, AR 30-3010.
19. Requisitioning, AR 35-6540.
20. Receipt, shipment, issue, AR 35-6560.
21. Marking of clothing, equipment, vehicles and property, AR 850-5.
22. Property accountability and responsibility, AR 35-6520.
23. Property expendable when issued, AR 35-6620, WD Cir. 170, 1943.

24. Property lost, damaged, destroyed or unserviceable, AR 35-6640, WD Cirs. 75 and 170, 1943.

25. Unserviceable property, AR 30-2145, WD Cir. 75, 1943.

26. Transfer of property accountability, AR 35-6680, WD Cir. 170, 1943.

27. TM 10-310, Property Accounting.

f. Corporal (company clerk). See sub-paragraph *a* above.

g. Corporal (squad leader). See sub-paragraph *c* above.

3. TECHNICIANS AND PRIVATES. a. These men work under the supervision of noncommissioned officers and should become familiar with the publications used by their official supervisors. Some of them may be called upon to take charge of certain work when non-commissioned officers are disabled. For example, the first cook may take over the duties of the mess sergeant.

b. 1. Bugler and messenger. The bugler must be familiar with TM 20-250, Field Music. In addition to his duties as bugler, this soldier serves as messenger for company headquarters, and as a driver. Normally, he will assist the company commander. In such work, he should become familiar with all publications the first sergeant may direct.

2. Chauffeurs. Each chauffeur should become familiar with TM 21-300, TM 10-460, and with the particular technical manual of the "10" series which pertains to the vehicle he drives. A copy of the Driver's Manual (TM 10-460) should be carried whenever driving.

APPENDIX E

SAMPLE
TRAINING PROGRESS CHART

QUARTERMASTER CAR COMPANY
William Brown, Captain, QMC, Commanding

NAME AND RANK	ASN	PRIMARY DUTY	SECONDARY DUTY	QUALIFIED FOR NEXT HIGHER GRADE	Articles of War	Organization of the Army	Military Discipline, Customs and Courtesies	Military Sanitation and Sanitary Hygiene: Personal Hygiene	First Aid	Infantry Drill (Close Order)	Extended Order Drill	Interior Guard Duty	Physical Training	Care of Clothing, Equipment and Tent Pitching	Self-Defense: Military Information	Rifle Marksmanship and Automatic Firing	Individual Security, and Sniping and Patrolling	Defense Against Air Attack	Defense Against Mechanical Attack	Marches and Bivouacs	Field Fortification	Night Operations
COMPANY HEADQUARTERS																						
1st Sgt. B. K. Emerson	51351819	Truckmaster																				
T/Sgt. D. R. Gray	71852525	Motor Sergeant																				
S/Sgt. D. W. Lazel	12119192	Motor Sergeant (Par. 45, MTP 10-101)																				
S/Sgt. W. M. Mahlenbaum	13581251	Supply Sergeant																				
Cpl. I. H. Billings	29121291	Company Clerk (Par. 35, MTP 10-101)																				
T/4 C. H. Flato	61212015	Cook (Par. 46, MTP 10-101)																				
T/4 D. X. Masters	13119205	Cook (Par. 46, MTP 10-101)																				
T/4 B. Noehren	14155818	Mechanic (Par. 33, MTP 10-101)																				
T/4 A. Overby	33333342	Mechanic (Par. 33, MTP 10-101)																				
T/4 P. T. Pastmaster	16119201	Mechanic (Par. 33, MTP 10-101)																				
T/4 R. E. Pohle	61129010	Mechanic (Par. 33, MTP 10-101)																				
T/4 S. T. Poole	21122691	Mechanic (Par. 33, MTP 10-101)																				
T/4 R. E. Ralph	93346212	Mechanic (Par. 33, MTP 10-101)																				
T/5 E. T. Courant	11111111	Cook (Par. 46, MTP 10-101)																				
T/5 E. E. Davila	22334455	Mechanic (Par. 33, MTP 10-101)																				
T/5 E. N. Klep	34343434	Mechanic (Par. 33, MTP 10-101)																				
T/5 A. M. Lasor	42424242	Mechanic (Par. 33, MTP 10-101)																				
T/5 R. E. Mastonia	50364211	Mechanic (Par. 33, MTP 10-101)																				
T/5 B. C. Ozome	33662211	Mechanic (Par. 33, MTP 10-101)																				
T/5 R. E. Pasquale	13131313	Armorer																				
T/5 A. B. Poore	14141414	Truck driver																				
PFC R. H. Brand	21811344	Bugler	Messenger																			
PFC B. K. Johnson	10814191	Basic																				
PFC C. P. Walberg	23112251	Basic																				
Pvt. P. L. Leuders	12521451	Basic																				
Pvt. R. D. Patton	16120205	Basic																				
Pvt. C. H. Strickland	19201893	Basic																				
Pvt. H. S. Van Hysing	82514914	Basic																				
Pvt. C. Raennumen	18119132	Basic																				
Pvt. R. D. Canfield	31146951	Basic																				
Pvt. K. T. Embree	51515151	Basic																				
Pvt. D. M. Park	61616161	Basic																				
Pvt. A. O. Paste	71717171	Basic																				
Pvt. R. E. Sale	81818181	Basic																				
FIRST PLATOON John Williams, 1st Lieut., QMC Commanding																						
S/Sgt. A. Adams	22222222	Platoon Sergeant																				
Cpl. R. E. Canby	33333333	Squad Leader																				
Cpl. K. T. Eastly	44444444	Squad Leader																				

LEGEND: Training started
25% completed
50% completed
75% completed
Completed course

APPENDIX F

PREVENTIVE MAINTENANCE SUGGESTIONS

1. PROCEDURE IN TROUBLE SHOOTING A GASOLINE ENGINE

SYMPTOMS OR TROUBLE

Engine Won't Start

FREQUENT CAUSES

Supply of gasoline insufficient.
Carburetor flooded.
Broken or loose ignition wires or battery cable.
Shorts in coil or distributor cap due to dampness or cracks.
Air leaks in intake manifold or connections.
Coil condenser in bad condition.
Distributor points not correctly spaced or dirty.
Contact points on ignition switch
Condition of fuel pump.
Choke control broken, allowing choke to stay partially closed.
Dirt or water in gas line or carburetor.
Spark plugs dirty or setting incorrect.
Carburetor adjustment.
Loose electrical connections.

INFREQUENT CAUSES

Spark plugs damp.
Leaks in ignition wire.
Carbon brush in center of distributor not making contact with rotor.
Gasoline level in carburetor not correct.
Vent in gasoline tank cap closed.
Storage battery strength insufficient.
Distributor shaft or gear stripped.
Timing chain stretched.
Timing gears stripped.
Vapor lock.
Engine overheated.
Clearance or cleanliness of contact points inside distributor caps.
Head gasket blown, broken or burnt through.

Engine Stalls

Slow speed on idling jet in carburetor.
Broken or loose ignition wires or battery cables.
Incorrect spacing or dirty distributor points.
Air leaks in intake manifold or connections to the manifold.
Choke partially closed.
Condition of coil and condenser.
Intake and exhaust valves.
Shorts in coil or distributor cap due to dampness or cracks.
Leaks in the ignition wire.
Trailing edge of rotor worn.
Dirt or water in gas line or carburetor.
Cleanliness of air cleaner.
Broken, blown or burnt head gasket.
Ignition timing.
Cleanliness and setting of spark plugs.
Loose electrical connections.

Throttle stop screw on carburetor.
Carburetor float level.
Weak battery.
Exhaust system stoppage.
Valve tappet clearance.
Compression of engine.
Spark plugs damp.
Vent in gasoline tank cap closed.
Heat riser.
Vapor lock.
Overheating.
Spacing and cleanliness of contact points inside distributor cap.

Engine Has No Power

FREQUENT CAUSES

Ignition timing.
Timing chain stretched.
Choke partially closed.
Bad carburetor adjustment.
Exhaust and intake valves.
Ignition wires leaking.
Cleanliness and setting of spark plugs.
Clearance of intake and exhaust valve
tappets.
General condition of coil and condenser.
Overheating.
Headgasket blown, broken or burnt
through.
General condition of fuel pump.
Brakes dragging.
Clutch slipping.
Clearance and cleanliness of distribu-
tor points.
Dirt or water in gas line or carburetor.
Trailing edge of rotor worn.
Ignition automatic advance.
Loose electrical connections.
Gasoline level in carburetor.
Improper octane gasoline.

INFREQUENT CAUSES

Exhaust system stopped.
Insufficient contact in ignition switch.
Supply of lubricating oil.
Heat riser.
Air leaks in intake manifold and con-
nection to the manifold.
Oil pressure.
Stale gasoline.
Excessive play in distributor cam.
Distributor cam worn.
Compression.

Engine "Lopes"

Carburetor adjustment.
Ignition timing.
Choke partially closed.
Spacing of spark plugs or cleanliness, or
general condition.
Overheating.
Ignition wires leaking.
Loose electrical connections.
Dirt or water in gas line or carburetor.
Jets in carburetor.
Air leaks in intake manifold and con-
nections to manifold.
General condition of coil and condenser.
Intake and exhaust valves.
Clearance of tappets on the intake and
exhaust.
Broken, blown or burnt head gasket.
Dampness on wiring or electrical
system.
General condition of distributor cap.
General condition of rotor.
Weak battery.
Shorts in electrical system.
Improper octane gasoline.

Automatic spark advance.
Excessive play in distributor cam.
Distributor cam worn.
Compression uneven.

Engine Overheats

FREQUENT CAUSES

Rate of flow in radiator.
General condition of water pump.
Thermostat general condition.
Fan general condition.
Tightness of fan belt.
General condition of radiator hoses.
Ignition timing.
Timing chain stretched.
Supply of lubricating oil.
Oil pump pressure.
Extra quantity of deposits in water jacket.
Choke partially closed.
Brake dragging.
Clutch slipping.
Leaks in water circulating system.
Cleanliness and spacing and general condition of spark plugs.
Lack of grease.
Overloaded.

INFREQUENT CAUSES

Stoppage in water circulating system.
Automatic spark advance.
Fuel pump general condition.
Quantity of carbon in engine.

Engine Misses While Idling

Cleanliness, setting, and general condition of spark plugs.
Intake and exhaust valves.
Broken or loose ignition wires.
Carburetor adjustment.
Air leaks in intake manifold and connections to manifold.
Clearance of intake and exhaust valve tappets.
Ignition system shorting.
Distributor points cleanliness or spacing.
Coil and condenser condition.
Weak battery.
Slow speed or idling jet of carburetor.
Distributor cap general condition.
Rotor general condition.
Loose electrical connections.
Gasoline level in carburetor.
Dampness on electrical system.

Excessive play in distributor cam.
Distributor cam worn.
Compression.

Engine Misses at High Speed

Distributor contact cleanliness and spacing.	Automatic spark advance.
Condition of coil and condenser.	Heat riser.
Spark plugs cleanliness and correct setting, also general condition.	Excessive play in distributor cam.
General condition of fuel.	Distributor cam worn.
Ignition system timing.	Intake manifold and connections to manifold air leaks.
Carburetor air cleaner.	Ignition wiring of insufficient capacity.
Dirt or water in gas line or carburetor.	
Intake and exhaust valves.	
Carburetor jets.	
Leakage in wires.	
Loose ignition wires.	
Distributor cap general condition.	
Rotor general condition.	
Loose electrical connections.	
Gasoline level in carburetor.	
Carburetor adjustment.	
Overheating.	
Intake and exhaust valve tappets clearance.	
Broken, blown or burnt head gasket.	
Shorts in electrical system.	

2. ENGINE TUNE-UP PROCEDURE

WHAT TO DO

1. Warm up engine.
2. Check compression.
3. Check valve tappet clearance.
4. Check ignition.
 - (a) Distributor points.
 - (b) Wiring.

WHAT TO WATCH OUT FOR

1. See that engine is at average operating temperature (160 degrees).
2. See that the compression of all cylinders is even.
3. See that there are no high spots on the valve tappet screws.
4. Double check everything you do on the ignition system.
 - (a) See that the distributor points meet squarely and that the full face of each is in contact.
 - (b) See that the wiring is not oil soaked, or corroded, where it fits in cap or coil. Check for loose connections.

WHAT TO DO

- (c) Coil.
 - (d) Condenser.
 - (e) Rotor.
 - (f) Distributor cap.
 - (g) Spark plugs.
5. Clean sediment bowl and primary filter.
 6. Check fuel pump.
 7. Clean carburetor.
 8. Check timing.
 9. Adjust carburetor, clean air cleaner and change the oil.

3. LUBRICATION

a. WHAT TO DO

1. Check engine oil.
 - (a) Oil generator.
 - (b) Oil starter.
 - (c) Grease or oil water pump and fan.

WHAT TO WATCH OUT FOR

- (c) See that the coil throws a hot spark and is not cracked in any place.
 - (d) See that the condenser does not leak and that all connections are tight.
 - (e) See that the trailing edge of the rotor is not worn down too far.
 - (f) See that there are no cracks in the cap and that the plugs inside the cap are in good order.
 - (g) See that there are no cracks or leaks and that the center electrode is in good condition.
5. See that the gasket on the sediment bowl and filter fits properly and does not leak air or gasoline.
 6. See that the fuel pump functions properly and does not leak.
 7. See that any screen or drain plugs are put back and tightened properly.
 8. See that the timing is set according to the manufacturers' manual.
 9. See that the engine does not lope or stall after the carburetor has been adjusted.

b. WHAT TO LOOK FOR

1. Be sure that oil comes up to proper level on the dip stick, and is free of grit or dirt.
 - (a) Drop a few drops of engine oil into each oil fitting. Some generators used sealed bearings which do not require additional lubricant.
 - (b) Oil every 1,000 miles with a few drops of engine oil.
 - (c) Some water pump and fan bearings are prelubricated for the life of the bearings. Others require either oil or grease every 1,000 miles.

a. WHAT TO DO

(d) Oil engine control linkage.

2. Check oil filter.
3. Check air cleaners.
4. Lubricate distributor.
5. Check steering gearbox.
6. Check transmission.
7. Check transfer case.
8. Check differentials.
9. Lubricate propeller shafts and universal joints.
10. Check propeller shaft center bearing.
11. Check winch housing.
12. Lubricate steering linkage.

b. WHAT TO LOOK FOR

(d) Oil and free up all engine controls including carburetor linkage; don't spray oil over engine.

2. Change element when dirty and at each change of engine oil, clean inside of filter and check for oil leaks.
3. Examine carburetor air cleaner element and oil for dust or grit. Clean and refill to level with new oil. Also examine air compressor and power cylinder air cleaners. Clean and re-oil when dirty. In dusty or sandy operation check air cleaners frequently.
4. Fill oil cup or turn down grease cup one full turn on distributor body. Remove rotor and oil wick, spread small amount of grease on cam. Keep oil and grease off distributor points.
5. Fill to filler plug level with gear lubricant.
6. See that lubricant is up to proper level and is of the right grade. Check for leaks.
7. Check lubricant level, see that vent is open. If lubricant has thickened or oxidized, drain and refill. Examine oil seals for leakage.
8. Check level and condition of lubricant. See that vents are open and there is no indication of leakage.
9. Lubricate slip joint and universal joints, use low pressure gun on U joints.
10. Clean vent and fill to level with gear lubricant.
11. Drain any water from winch housing and refill with gear lubricant to proper level.
12. Grease tie rod and connecting rod with chassis grease.

a. WHAT TO DO

13. Lubricate steering knuckles and front axle universals.
14. Lubricate spring shackles.
15. Lubricate winch shaft, clutch drum bearing and cable.
16. Lubricate pintle and control linkage.
17. Lubricate wheel bearings.
18. Lubricate rear spring bearings.
19. Lubricate fifth wheel on tractor.
20. Check battery.
21. Check master brake cylinder.
22. Check shock absorber.

b. WHAT TO LOOK FOR

13. Lubricate as directed by manufacturer's manual.
14. See that grease passes through shackle pin and lubricates shackle.
15. Lubricate all fitting with chassis grease. Inspect full length of cable, clean and re-oil.
16. Lubricate with engine oil every 1,000 miles.
17. Remove old grease and repack with wheel bearings; grease every 6,000 miles.
18. Lubricate as directed in manufacturer's manual.
19. Be sure to lubricate all fittings and plate every 1,000 miles; remove old lubricant and grit from plate.
20. See that battery is tight in the case, terminals are tight and free of corrosion, a small amount of grease on each terminal will prevent corrosion. Refill battery with distilled water to $\frac{3}{8}$ " above plates.
21. See that fluid in master cylinder is within one inch of filler plug. Use only approved brake fluid.
22. Check fluid level, refill as needed with shock fluid.

NOTE:—Refer to manufacturer's manual for proper amount, type or method of lubricating any of the above units.

4. PROCEDURE IN CARE OF TIRES

WHAT TO DO

1. Check size.
2. Check for matching.
3. Check inflation.
4. Check for foreign material imbedded in the casings.
5. Check for cuts.

WHAT TO WATCH OUT FOR

1. Be sure that the tires are the right size for the rims and the load they are to carry.
2. Be sure that dual tires are matched properly.
3. Be sure the tires have the correct air pressure for their size.
4. Check for any foreign material which might work through the casing.
5. Be sure that any cut present does not go through the casing.

WHAT TO DO

6. Check side walls for being scuffed.
7. Check alignment of the front end, axles, and frame.
8. Check when tires were last rotated.
9. Check spare tire mounting.
10. Inspect inside of casings.
11. Check how the tire is mounted on the rim.
12. Check to see if tire is fit to have a section repair put in.
13. Check the section repair.
14. Check the casings to see if they can be retreaded or recapped.
15. Check how chains are anchored.
16. Check the spacing of the dual tires.
17. Check size of tube.
18. Check valve stem on the tube.
19. Check base of valve.
20. Check valve insides.
21. Check to see if the tube is worth repairing.

WHAT TO WATCH OUT FOR

6. Be sure that the side walls are not scuffed so badly as to weaken the tire.
7. Be sure that the toe-in, camber, caster, axles, and frame are in alignment and that they are set according to the manufacturer's manual.
8. When rotating the tires put the ones that were on the left side on the right side and vice-versa.
9. Be sure that the tire does not rub against any clamp, frame or bolt.
10. Check the inside of the casings for any cuts or breaks.
11. Be sure that the valve is in the right place and that the rim is locked.
12. Be sure that the place to be repaired is not too large and that the rest of the tire is in good condition.
13. Check the section repair for any weakness or for being out of shape.
14. Be sure there are no breaks in the casings and that the casings are not too old.
15. Be sure that the chains have room to move about and that they won't stay in one spot on the tire.
16. Be sure that the dual tires do not rub against each other when the vehicle is loaded.
17. Be sure that the tube is the right size for the tire it is to be used in. Make sure that it has the right kind of valve stem for the type rim or wheel that is going to be used.
18. Be sure that the valve stem is not rubbed in any place.
19. Be sure that the valve base is tight.
20. Be sure that the valve insides are in good condition and will hold the air pressure.
21. Be sure that there are not too many repairs on the tube.

5. DRIVER HINTS FOR COLD WEATHER

a. Starting Cold Engine.

1. *In starting a cold engine*, the oil may be drained, heated, and poured back; the radiator fluid may be drained, heated and poured back.

The intake manifold may be heated with a blow torch. This practice is dangerous and should never be employed unless a fire extinguisher is in readiness for a possible gas or oil fire.

In any event, *before using the starter, pull the choke*, then turn the engine over several times with the crank. This breaks the hold of the frost congealed oil film between the pistons and cylinder walls, and also places a fuel charge in each cylinder. *Disengaging the clutch relieves the drag of turning the transmission countershaft* through the stiff frozen grease.

2. *After the engine starts, avoid excessive use of the choke* as the unburned gas will wash down the cylinder walls, destroying the oil film and diluting the oil.

3. *Never race a cold engine.* The oil must be warmed up to protect all moving parts properly.

4. *Allow the engine to warm up* before engaging the load, and avoid excessive speeds until the lubricant in all gears and bearings has had time to warm up and flow properly.

b. Whenever practical, *keep the engine from getting cold.* On brief halts, allow the engine to idle, and on longer halts cover the radiator and hood. In severe cold, it may be good practice to have the engine started frequently enough to prevent getting cold.

c. **Engine oil must be changed more frequently in extremely cold operations** due to gas dilution and sludge from moisture.

d. **The crankcase ventilator must be kept clear.** Condensation of moisture and gasoline creates a vapor in the crankcase, and unless these vapors are expelled, they form an acid which attacks the polished surfaces of pistons, cylinders and bearings.

e. **Keep all fuel tanks and containers as nearly full as possible.** This will prevent condensation of moisture inside the tanks and containers.

f. Filter all gas through a chamois to remove all water. Prevention and removal of water accumulations at time of fueling is safer than thawing out lines and filters later.

g. Drain all fuel filters at least once every day. This **MUST** be done whenever there is danger of freezing.

h. Check the distributor cap frequently for moisture. Be sure the ventilating vent is open, as moisture gathering inside the cap from condensation will short across the terminals, and may even freeze the pivot of the movable arm.

i. Check relief vents on transfer cases, transmissions, and axles frequently to be sure they are clear.

j. Inspect all brake lines frequently. Frozen slush and mud may gather in sufficient quantity to break lines.

k. Various tests have been made to increase the efficiency of motor operations in extreme cold. One method of keeping the vehicle warm is the construction of a shroud tailored to fit over and behind the cab to the ground, over the radiator and to the ground, then heating the area thus enclosed with a small gasoline burner. This burner must be of special design to eliminate danger of fire. The shroud requires about 25 yards of duck.

l. Vehicles in good condition, with a fully charged battery and low viscous crankcase oil will start satisfactorily in weather down to minus 20° F.

m. Below minus 20° F., special precautions must be taken. The oil may be diluted while still warm with about a pint of gasoline per gallon of oil. This leaves the oil of proper viscosity to withstand abnormal temperatures. Gasoline is a better diluent than kerosene for the reason that it evaporates much faster, leaving the oil for lubrication.

n. Parts normally lubricated with grease may have to be lubricated with a fluid oil.

o. Storage batteries lose their efficiency when the electrolyte temperature goes *below 15° F.*, and should be heated.

p. Vehicles with single wheels have been found *more efficient in snow* than those equipped with duals.

q. 4 x 4 vehicles without chains perform better than those with chains only on the rear.

r. If uncertain about a difficult stretch of road, stop and look the situation over before starting through.

s. In a difficult piece of road or drift, let the leading vehicle go through before driving more vehicles into the same spot. It may become necessary to pull the leading vehicle out backwards.

t. In driving through a difficult spot, a vehicle should always be shifted into low gear and kept moving. Stopping to shift gears after entering such a spot may cause the wheels to spin and dig in and the vehicle may become bogged down.

u. If the wheels begin to spin, disengage the clutch at once, as continued spinning will do no good. Look the situation over. By backing a short distance then starting forward again, enough momentum may be gained to go through.

v. Rocking the vehicle forward and backward by rapidly shifting from low to reverse, *often provides a solid track* long enough to obtain the necessary momentum to go through.

w. Always carry a shovel on the vehicle. Very often removing a small amount of snow or earth from in front of or behind the wheels, will enable a stalled vehicle to move out under its own power.

x. When stopping on any slippery road, apply the brakes gently. A severe application may cause a bad skid. Especially is this true on ice or in snow.

y. Never depend on brakes when descending a slippery hill. Shift into a lower gear and use the engine for braking.

z. Chains serve a good purpose in snow or mud, but are of little or no value on ice. A few shovelfuls of sand or earth scattered over an icy grade, will do as much, and often more than chains.

aa. On slippery road conditions never accelerate quickly, as this may cause one wheel to spin while the other remains idle, and may result in a skid.

ab. To overcome a skid, turn the front wheels into the direction of a skid; the momentum of the vehicle will carry it into a straight line parallel to the original path, and should result in gaining control.

ac. Avoid ruts that may cause a skid or bruise a tire. When halting for some time, chock the wheels, if possible, leaving the brake released. This may eliminate the possibility of frozen locked brakes.

ad. Before coming to a halt, apply the brakes rather severely several times. This heats up the shoes and drums, and helps to dispose of water which may have accumulated within the drum.

ae. When possible windshields should be equipped with defrosters. They may sometimes be kept clear by blocking up the rear end of the hood to allow hot air from the engine to flow back against the windshield.

af. Shield the lower half of the radiator. This practice results in a better operating temperature.

ag. If trucks are not equipped with heaters, grass or straw should be placed on the floor to *aid in keeping the feet warm*.

ah. When crossing on ice over frozen streams, keep the cab doors open—you might want to leave in a hurry.

ai. Avoid touching frozen metal with bare hands. It tools must be handled, wrap the handles with tape.

aj. Know and use proper signals. This is most important in winter driving when roads are treacherous and visibility poor.

ak. Treat the vehicle as if it were your own. After all it really is, and much depends on your operation of it.

al. Remember that *sleet* may be melting on the road, but *freezes on a bridge* because it is exposed to cold from below as well as above.

am. When driving in a heavy snow storm, rain or fog, use lights to warn the drivers of other vehicles.

an. If visibility is zero better *stop* and wait for a change.

ao. Loads should be distributed evenly as possible on all wheels. This helps to equalize traction between the wheels.

ap. Should radiator antifreeze be lost and new supply unavailable, light lubricating oil or fuel oil will get the vehicle back.

6. DRIVER HINTS FOR DESERT OPERATION

a. Adjustments before starting vehicle.

1. *Deflate tires as recommended, before the vehicle enters upon sand and rocky terrain requiring such adjustment. (See Training Circular No. 2, 1943, paragraph 4a.)*
2. *Use front-wheel drive for operation in soft sand and, usually, on rocky terrain.*

b. Starting techniques.

1. *Select a low gear range; the softer the sand, the lower the range (generally, for vehicles ranging in size from $\frac{1}{4}$ to $2\frac{1}{2}$ tons, second gear in low range will be most effective in soft sand operation). Low range is generally necessary on rocky terrain also.*
2. *Start vehicle slowly.*
3. *Keep shifting of gears to a minimum. The gear ratio needed for a particular movement should be employed before the movement begins.*

c. Steering and stopping techniques.

1. *Avoid soft sand as much as possible. When it cannot be avoided, head for it with increased speed.*
2. *Straddle undergrowth and avoid rocks that are likely to damage low vehicle parts.*
3. *In areas of soft sand (not crusted) and in rocky terrain, track preceding vehicles whenever possible.*
4. *Do not use the brake to stop in soft sand. Permit vehicle to roll to a halt. Whenever possible, stop the vehicle on a downhill slope, even though a slight one.*
5. *In attempting to negotiate a sand dune, steer vehicle at right angles to the dune; avoid a slanty ascent.*

d. Hints on care of vehicle.

1. *Reinflate tires immediately after leaving soft sand or rocky terrain.*
2. *Keep valve caps on all tires; carry spare valve caps.*
3. *Check water, temperature, and oil pressure frequently.*
4. *If overheating occurs (temperature gage registers over 200°):*

- (a) Check for loose fan belt—adjust or replace, if necessary.
- (b) Check water in radiator—replenish if necessary.
- (c) Check radiator exterior—remove brush and other matter that may have collected.
- (d) Head vehicle into wind, stop, and let motor run at a fast idle.
- 5. If vapor lock occurs during operation, pump the accelerator a few times or choke gradually.
- 6. If vapor lock causes difficulty in starting, place a wet rag around the fuel pump and fuel filter.
- 7. Check air cleaner more frequently than usual.
- 8. Wipe sand off spouts of gasoline containers before they are used.
- 9. When water has to be added in battery, use distilled water, if possible; avoid desert water, which has a high mineral content.
- 10. Help keep distributors clean by running a piece of paper between the breaker points.
- 11. Because of abnormal shock and vibration, particularly when operating over rocky terrain, *inspect nuts, bolts, springs, mountings, and accessories, more frequently than usual*, for evidence of looseness.
- 12. Change oil more often than during normal operation.
- 13. Wipe sand from oil can spout before adding oil; remove accumulations on the filler hole.
- 14. After operation, remove oil filter and valve cover breather caps, clean, and then dip in engine oil, allowing excess oil to drain off before replacing.
- 15. Clean oil bath air cleaner as often as necessary to keep the pump free from excessive accumulations of sand and dust. Rubbing fingers through the oil will help to detect foreign matter.

e. Hints on getting out of difficult situations in soft sand.

- 1. Put the vehicle in reverse gear and attempt to back out, with a view to selecting a new forward course.
- 2. Back up somewhat and then start forward again smoothly, but with power adequate to overcome sand resistance.

3. Reduce tire pressure, particularly if inspection shows that heat has caused tire pressure to build up.

4. Using a shovel, clear sand away from the wheels and lay a track with canvas strips, wire netting, rope ladders, or some similar appliance to provide the wheels with a gripping surface.

5. *Use the winch or a tow, if possible, as soon as it is evident that continued operation of the vehicle under its own power will only cause it to sink in deeper.*

6. If a trailed load has swung to one side or doubled up on the towing vehicle, disengage the trailed load, maneuver towing vehicle into the line of direction of the trailed load, engage it to the latter, and begin operation in the new direction.

f. General precautions.

1. *Avoid trouble by making proper vehicle inspections and by driving as recommended.*

2. *Use gasoline very carefully, since consumption on desert marches is very high.*

3. *Use water sparingly. Battle rations in a desert theatre provide about one gallon of water per man per day for all purposes, including vehicle use as well as drinking and washing.*

APPENDIX G

GLOSSARY

A

Administration. As applied to a company, those phases of operations that concern the personnel of the company, such as personnel records, quartering, discipline, messing, supply, sanitation and other allied subjects. Those phases of company activity pertaining to technical operations and tactics are not generally considered part of administration.

Antimechanized defense. All measures taken for security and defense against enemy mechanized or armored units.

Audit. An audit is an official examination and authentication of accounts, with vouchers, etc. The general purpose of an audit is to determine whether:

1. Regulations governing property accountability have been observed.
2. The Stock Record Account reflects a true accounting of all property. (See AR 35-6740.)

Automatic supply. Automatic supply signifies a process of supply by means of which deliveries of specific kinds and quantities of supplies are moved in accordance with a predetermined schedule. Daily automatic supply means that supplies are dispatched daily to an organization or installation.

B

Balanced stocks. Accumulation of supplies of all classes and in quantities determined as necessary to meet requirements for a fixed period of time.

Battle inoculation. Training which prepares troops for the shock of battle. Usually involves the use of overhead fire, TNT blocks, smoke candles, tear gas, and other means of simulating attack from ground or air.

Bivouac. A temporary encampment of soldiers.

Booby trap. A grenade or other charge of explosive concealed in abandoned equipment or shelter usually by retreating troops, so arranged that it may be unintentionally exploded by the unsuspecting enemy.

C

Cadre. A nucleus of key men around whom a newly activated company is organized and trained.

Camouflage. The disguising of an object or area for the purpose of deceiving an observer as to its existence, nature, or location. (See paragraph 22.)

Class I supplies. Those articles, such as rations and forage, which are consumed at an approximately uniform daily rate irrespective of combat operations or terrain and which do not require special adaptation to meet individual requirements.

Class II supplies. Those authorized articles, such as clothing, gas masks, arms, trucks, radio sets, tools, and instruments, for which allowances are established by tables of basic allowances and tables of allowances.

Class III supplies. Engine fuels and lubricants, including gasoline for all vehicles and aircraft, Diesel oil, fuel oil, and coal.

Class IV supplies. Those articles of supply, such as fortification materials, construction materials, and machinery, which are not covered in tables of basic allowances and for which demands are directly related to operations contemplated or in progress (except for articles in Classes III and V).

Class V supplies. Ammunition, pyrotechnics, antitank mines, and chemicals.

Clearing station. Corps or division medical installation where sick and wounded are assembled from collecting and aid stations, sorted, treated if necessary, and turned over to the army for further evacuation. (Formerly called hospital station.)

Column. One or more march units under one commander using the same route.

Combat zone. A combat zone comprises that part of the theater of operations required for the active operations of the combatant forces. It is divided into army, corps, and division areas, each comprising the zone of operations of the unit to which it pertains. (See FM 100-5.)

Communications zone. A communications zone is that part of a theater of operations, contiguous to the combat zone, which contains the lines of communication, establishments for supply and evacuation, and other agencies required for the immediate support and maintenance of the field forces in the theater of operations. (See FM 100-5.)

Control point. Agency established by a unit at a convenient point on the route of its trains where information and instructions are given and received in order to regulate supply or traffic.

Convoy. A group of motor vehicles temporarily organized to operate as a column for the purpose of carrying troops or supplies.

Credit. Allocation of a definite quantity of supplies which is placed at the disposal of the commander of an organization for a prescribed period of time.

Custodial officer. The individual who functions as custodian of post property. He receipts for all post property and, with the company commander, assumes joint responsibility for it, as provided in WD Cir. 170, 1943.

D

Daily telegram. A telegram or other message dispatched daily by divisions and larger units stating the unit's situation relative to supplies. A strength report is included. The telegram conveys the information necessary for computing the quantities of Class I and Class III supplies to be forwarded each day.

Demolition. The destruction of supplies and equipment by any means, the creation of obstacles by use of explosives, such as the destruction or blocking of roads, bridges, etc.

Dispatcher. The man who operates the dispatching board and checks on the drivers leaving and entering the dispatching point.

Dispatching board. A device which shows the status of a vehicle, its serial number, and destination. It keeps an accurate check on vehicles of quartermaster car companies and platoons and will be located at dispatching points.

Distributing point. Place other than a depot or railhead where supplies are issued to regiments and small units. Distributing points are designated by the class of supplies therein, and by the identity of the unit supplying them; for example, Class I Distributing Point, 1st Division, or Ammunition Distributing Point, 1st Infantry.

Dump. Temporary stock of supplies established by a corps, division, or smaller unit. When supplies are ordered issued from dumps, they become distributing points. Dumps are designated by the identity of the unit establishing them and by the class of supplies therein, such as 1st Infantry Ammunition Dump or 1st Division Class I Supply Dump.

E

Echelon system of maintenance. A system set up in five echelons of depth:

1. *First*—Preventive or driver maintenance.
2. *Second*—Together with first echelon, it comprises organizational maintenance. Usually performed by the organizational mechanics with the T/BA tools issued to the unit and confined to making minor repairs and servicing.
3. *Third*—Medium maintenance performed by maintenance organizations and consisting of minor repairs and unit replacement.
4. *Fourth*—Heavy maintenance performed by heavy maintenance companies set up to make major repairs and to reclaim vehicles and unit assemblies.
5. *Fifth*—Maintenance performed by base shops in which the ability to repair and reclaim is not limited by lack of facilities or by restrictions imposed because of mobility considerations.

Expendable property. Material which is consumed by use or which loses its identity. For example: paper, ink, stencils, ammunition, cleaning and preserving materials, and parts replaced in a machine.

F

Fox hole. Small individual shelter and rifle pit dug into the ground.

G

Garlands. Garnishings of burlap, or other artificial or natural materials, woven into a fishnet, used in camouflage.

H

Holding and reconsignment point. Rail or motor center of considerable capacity to which cars or trucks may be sent and at which they may be held until their destination becomes known or until the proper time for them to be moved toward their destination. This is an

agency of the zone of the interior, and in a contiguous theater it usually is the point at which the theater commander assumes responsibility for the movement.

"Housekeeping" facilities. Facilities normally provided through a company headquarters, including quartering, messing, supply and personnel management.

I

Individual clothing and equipment. Items chargeable to enlisted men on individual clothing and equipment records. Normally taken with the man on change of station.

Infiltration march. See paragraph 21.

L

Lines of communication. Network of railways, waterways, and roads which lead into the combat zone from administrative establishments located in the communications zone or in the zone of the interior.

M

Machine records unit. An integral part of Army personnel administration established at service command headquarters and other points authorized by the War Department. Data supplied to these units on WD AGO Forms Nos. 303 and 309 are mechanically processed to produce roster, strength returns, historical records and other information on request.

March unit. One or more motor vehicles under a single commander for purposes of march control. A company, troop, battery, or similar organization normally forms the march unit.

N

Navigation head. Supply point where supplies are transferred from water to another type of transportation, generally motorized trains.

Nonexpendable property. Property of a permanent or semi-permanent nature and of such character that it does not lose its identity through use. For example: rifles, field glasses, tents, stoves, motor vehicles.

O

Operating unit. A group organized to perform its mission as a unit. A company is considered a unit. A car platoon operating separately from the company is considered an operating unit.

Organizational clothing and equipment. Table of basic allowance property, a record of which is required to be kept in the company property book. Regardless of personnel turnover and change of locale, this property is maintained at a constant level.

P

Park. Area used for the purpose of servicing, maintaining, and parking vehicles.

Patrol. A detachment of troops sent out on a mission of reconnaissance or security or both (mounted or dismounted).

Personnel center. A group of clerical personnel assembled from the various organizations served. The center is set up to promote uniformity of personnel administration and accounting throughout the organizations represented at the center, and to relieve the company commander of the burden of administrative details.

Personnel officer. Otherwise, the assistant or personnel adjutant. He directs and supervises the personnel section and has the authority to act in the name of the commander.

Photomap. An aerial photograph upon which information commonly found on maps has been placed, including at least a scale and a directional arrow.

Post, camp, and station property. Those supplies for garrison use as listed in Table of Allowances No. 10.

R

Railhead. Supply point where supplies are transferred from rail to another type of transportation, generally motorized trains. A railhead may be established for any class or classes of supplies. Examples: Class I, Railhead, 1st Division; Class V, Railhead, First Army.

Ration. The allowance of food for the subsistence of one person for one day. For field rations A, B, C, D, and K see FM 100-10 and AR 30-2210.

Reception center. A point where inductees report for processing and assignment. Limited training facilities are provided at such a center to give basic training to men awaiting assignment.

Reconnaissance. The procurement in the field of information of military value, such as the nature of terrain, the disposition of the enemy, etc.; as distinguished from observation, reconnaissance implies movement.

Regulating station. Traffic control agency established on lines of communications and through which movements are directed and controlled by the commander of the theater of operations.

Replacement. Individual available for assignment.

Replacement training center. A military establishment in the zone of interior where men and officers are trained and held as replacements, normally for units suffering casualties in combat.

Requirements. Computed needs for a military force embracing all supplies necessary for its equipment, maintenance, and operation for a given period, and classified as individual, organizational, initial, maintenance, and reserve.

Requisition. Request for supplies, usually on a form furnished for the purpose. The word is also used to signify the purchase of supplies by demand in hostile, occupied territory. (See Chapter V.)

Reserves. Supplies accumulated in excess of immediate needs for the purpose of insuring continuity of adequate supply. Also designated as reserve supplies.

Reserves, battle. Supplies accumulated by the army, detached corps, or detached division in the vicinity of the battlefield in addition to unit and individual reserves.

Reserves, individual. Those supplies carried on the soldier, animal, or vehicle for his or its individual use in an emergency.

Reserves, unit. Prescribed quantities of supplies carried as a reserve by a unit.

Responsibility. The state of being liable which devolves upon any person having public property in his physical possession.

Route reconnaissance. The practice of sending out a patrol for gathering information concerning the condition and utility of a proposed route.

S

Security. All measures taken by an organization to protect itself from observation, annoyance or surprise attack by the enemy, and to obtain for itself the necessary freedom of action.

Serial. One or more march units, preferably with same march characteristics placed under one commander for march purposes.

Shipping ticket. A form of receipt accompanying a shipment to a supply officer, to be signed and returned to the shipper. A combined invoice and receipt.

Slit trench. A narrow trench dug deep enough to allow the soldier to get below the surface of the ground. It affords protection against small-arms fire and the fragments of artillery shells and bombs. A single trench should not be required to hold more than two individuals.

Standing operating procedure. Directive from higher authority setting up the methods and techniques for performing a given mission.

Stock record account. A uniform, complete, and accurate record showing quantities of property on hand, received, and issued. It is kept on WD QMC Form 424 (Stock Record Card), or an authorized modification, by all officers having accountability for property.

Strip map. Sketch or map, either schematic or drawn to scale, showing a route to be followed; sometimes in the form of a section or strip, cut or reproduced from a map.

Supply establishments—Depots. Depots are supply establishments maintained primarily for the purpose of receiving, storing and distributing supplies. They may be charged with other functions, including procurements as directed by regulations and orders.

Supply establishments—General. Those establishments by means of which the supply functions of chiefs of arms and services are accomplished, such as arsenals, manufacturing plants, and depots.

Supply point. A generic term used to include depots, railheads, dumps, and distributing points.

Supplies. In a military sense, the term describes all items necessary for the equipment, maintenance, and operation of a military command, including food, clothing, equipment, arms, ammunition, fuel, forage, and materials and machinery of all kinds.

T

Technical inspections of motor vehicles. Opposed to command inspections. Include the 30-day (monthly) or 1000-mile maintenance and the six-month, or 6,000-mile inspection. The use of WD AGO Form No. 461 is optional.

Theater of operations. An area of the theater of war necessary for military operations and the administration and supply incident to military operations. The War Department designates one or more theaters of operations.

Theater of war. Those areas of land and sea which are, or may become, directly involved in the operations of war. That part of the theater of war within the control of each belligerent is usually divided into a zone of the interior and one or more theaters of operations.

Train. The train of a unit is that portion of the unit's transportation, including personnel operating under the immediate orders of the unit commander primarily for supply, evacuation, and maintenance. It is designated by the name of the unit, such as 1st Infantry Train.

U

Unit of fire. A unit of fire for a designated organization or weapon is the quantity in rounds or tons of ammunition, bombs, grenades, and pyrotechnics which it may be expected to expend on the average in one day of combat.

Unit training center. An establishment where units are formed and train as such preparatory to active field duty.

V

Voucher. An instrument which authorizes an accountable officer to pick up or drop property from his stock record account. Each entry made in the stock record account must be supported by a valid voucher.

Z

Zone of the interior. The area of the national territory exclusive of areas included in the theater of operations.

STUDENT NOTES

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